SATURDAY, JULY 1, 1871.

ORIGINAL LECTURES.

CLINICAL LECTURE

ON A CASE OF PROGRESSIVE MUSCULAR SCLEROSIS (PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS OF DUCHENNE).

Delivered May, 1871,

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YOU will remember, gentlemen, that at my last lecture, having fully discussed the symptomatology of Progressive Muscular Sclerosis, I had entered upon the discussion of its pathology and relation to some other affections. I told you that, in order to facilitate the study of this question, it was desirable to secure an examination of the tissue of the muscles involved, and that for this purpose I had obtained a small scrap of muscular tissue, by means of an "emporte-pièce," from both gastrocnemii and the left deltoid muscles. These have been subjected to careful microscopical study, with the following results:

The fragment removed from the left deltoid was of a slightly pale reddish color. When examined microscopically, a large majority of the fibrils showed distinct, though often fine and delicate, transverse striation. In a few instances, striation was entirely absent, the fibrils looking homogeneous and much like ground-glass cylinders. In a very few fibrils, also, distinct longitudinal striation was visible, and in others there was multiplication of the nuclei in the sarcolemma. In not a single fibril was there any trace of fatty degeneration. The fibrils varied in size from $\frac{1}{465}''$ to $\frac{1}{230}''$, or even, in a few cases, $\frac{1}{166}''$. The striation was particularly faint, or at times even absent, in the largest fibrils. There was a large amount of interstitial white fibrous tissue, with abundant granular matter containing many oval nuclei. In places there were small collections of minute fat-globules or refracting granules.

The fragments removed from the gastrocnemii presented closely analogous conditions. The muscular tissue was merely rather paler red than normal. The muscular fibrils varied greatly in appearance and in size. The transverse striation was in some fibrils perfectly healthy, but in a majority it was altered, though in various ways. Thus, in some it was very faint and difficult to distinguish; in others, it was wholly absent, the fibrils presenting the appearance of fine ground glass. In other fibrils there was a marked appearance of longitudinal striation, due to delicate fibres or very fine fusiform cells arranged in the long axis of the muscular fibril. In many fibrils there was distinct excess of the nuclei of the sarcolemma, which appeared as large oval nuclei with a punctiform nucleus. A few fibrils presented streaks of minute fatty granules along their centres, and a very small number were decidedly fatty. The muscular fibrils varied greatly in size also. Many were about $\frac{1}{250}''$ to $\frac{1}{330}''$ in diameter; but a number were $\frac{1}{450}''$ to $\frac{1}{400}''$, while others were as much as $\frac{1}{125}''$, $\frac{1}{140}''$, $\frac{1}{200}''$ in width. There was a large excess of interstitial tissue, in places taking the form of long, narrow, wavy bands of pure white fibrous tissue; in others, appearing as abundant granular stroma, thickly strewn with oval nuclei. There was also some curly, elastic fibrous tissue. There was a considerable amount of interstitial fat, existing as scattered globules, or arranged in patches of large, closely aggregated fat-globules. In places isolated muscular fibrils lay imbedded in this fibroid tissue so as to be scarcely visible; but in other places a number of fibrils lay directly in contact with each other, forming a little bundle, around which the excessive growth of interstitial tissue had occurred. The arterioles and capillaries appeared healthy. No nerve-fibrils were detected.

Similar examinations have, as before stated, been made in a number of cases of this disease, and have yielded results agreeing in all essentials with those I have found in the muscles of this patient. The points which I desire to dwell upon as of capital importance in their bearing on the pathology of the disease are, in the first place, that the primary fundamental change in the affected muscles is an excessive growth or hyperplasia of the interstitial connective tissue. This is found to have taken place even in those muscles which have not undergone any increase in bulk, or which are even reduced in size (for instance, the left deltoid in this case). In the latter case it is evident that the process cannot have advanced far, and it also appears probable that there is a certain amount of simple atrophy of the muscular fibrils developed simultaneously. This, however, does not appear to be the only change in the muscular fibrils, which are also found to begin to lose their transverse striation, and to present increase in the nuclei of their sarcolemma, or distinct longitudinal striation. Observe, however, that there is not the slightest tendency to a primary fatty degeneration of the muscular fibril. It may happen that this interstitial growth never reaches such an extent as to cause apparent enlargement of the muscle, so that only certain muscles may thus enlarge. Thus, as a rule, the muscles of the calves are the first to undergo this subsequent change, and they may be the only ones in which it appears, although numerous other muscles may present the first stage of the process.

In those muscles which do undergo this subsequent enlargement, the hyperplasia of interstitial connective tissue is found to have reached an extreme degree. The appearances presented indicate that the entire process has been one of sclerosis, in which there has been rapid growth of nucleated fibro-cellular tissue, with the development of bands of wavy fibrous tissue, and even some curly elastic fibres. It is easy to recognize, therefore, the identity of this process with the other sclerotic inflammations, as of the connective tissue of the nervous centres (sclerosis of brain and spinal cord), of the lungs, liver, and kidney (cirrhosis), and of the subcutaneous tissue (scleroderma). There is, however, one point in which this affection of the muscles appears to differ from the other sclerotic conditions mentioned. In the latter, we constantly observe that, with the progress of the change, a tendency to organization and contraction of the newly-formed fibrous tissue soon manifests itself, while the essential elements of the part (nerve-tubules, liver-cells, or uriniferous tubules) are compressed and undergo atrophic degeneration. In the disease we are now considering however, there is a simultaneous change in the muscular fibrils, even in the early stage; but this does not appear to depend wholly on the hypertrophy of the interstitial connective tissue, nor does it maintain any definite or constant relation with this latter change throughout the course of the disease.* Indeed, as is seen in this patient, those very muscles which present the greatest degree of sclerotic enlargement may be the strongest of the whole series which are implicated in the disease. It is true that the muscular fibrils of such muscles present a further stage of the change begun in the first period of the disease. Their transverse striation is still more delicate and faint, or is even, in a number of fibrils, entirely lost. But they do not seem to have undergone any further

* It may be that in some cases where there is marked loss of power, with general preservation of the size and striation of the muscular fibrils, the sclerotic change in the connective tissue compresses the branches of the motor nerves as they traverse the muscular tissue.

atrophy; indeed, the measurements I have made, and the increased strength in the muscles of the patient's calves, would point to the belief that the muscular fibrils may temporarily share the exaggerated nutrition of the surrounding connective tissue, and undergo a delusive increase in size and power.* Thus, I find that the fibrils in the gastrocnemii muscles of this patient are fully one-third wider than those in his left deltoid, and that some of the former have acquired the enormous size of $\frac{1}{125}''$ in transverse diameter.

Whether this transitory stage usually exists or not, the sclerotic change does not depart from its inevitable law of development. Already in this second stage we have seen patches of fat-globules appearing in the interfibrillar spaces, and as the disease passes into the final stage, this fatty degeneration of the muscle advances with varying rapidity, even leading in some cases to such an accumulation of fat as to be visible to the unaided eye as yellowish streaks. This extreme condition is, however, very rare, and much more frequently the accumulation of fat is moderate. Even when very great, however, it is found to be far more due to increase of the interstitial fat than to a true fatty degeneration of the muscular fibrils. Their nutrition must be, however, very gravely impaired, so that they undergo atrophy, and in many places entirely disappear, leaving their sheaths empty. This change coincides with the rapid extension of paralysis which characterizes the final stage of the disease.

This detailed account of the muscular lesion naturally leads to the question of the pathology of this curious affection. It cannot be held that the disease depends upon or is essentially connected with any cerebral lesion. It is true that in a number of cases the patients have been idiotic, or at least exhibited marked impairment in intellectual development: in the present case, also, epileptic convulsions are present as a complication. It must, however, be remembered that cerebral disturbances of any kind whatsoever are not uniformly present, that disorders of special sense are rare, and that some cases of the disease have been observed associated with a normal state of the intellectual faculties; and, finally, that in the one case where the nervous centres have been examined, the brain was found healthy. The peculiar character of the muscular lesion and its symmetrical distribution are additional proof, if more were wanting, of the absence of all connection between the disease we are discussing and any cerebral lesion.

Nor is the argument more strong in favor of a spinal lesion as the cause of this affection. It is true that the first idea which will arise, on learning from a patient that his malady began with gradual loss of power of both legs, is that there is some disease of the anterior columns of the spinal cord. When, however, as in the present case, we further find that there has been no alteration of sensibility, no loss of co-ordination of muscular movements, no subjective sensations, such as of formication or of constriction, no implication of either bladder or rectum; when also we learn on careful examination that the loss of power was not in reality the primary symptom, but was preceded by and existed only in proportion to certain muscular changes,—we must conclude that the disease is not dependent upon any affection of the spinal cord. The most important fact to be clearly apprehended here is that in reality there is no paraplegia, in the strict and only correct significance of the word, present in the disease we are studying. It is of course true that a paralyzed muscle will often undergo atrophy or fatty degeneration, but these changes are then dependent upon loss of function and of innervation, and are essentially secondary to the interruption of the transmission of motor power. Widely different, however, is the relation which here exists between the loss of power and the alterations in the muscles. There is throughout the course of the disease no real loss of motor nerve-power, nor any interference with its transmission, but merely an interference with its manifestation, owing to a progressive sclerotic change in certain muscles. This change has been slowly advancing for some time before the loss of power is so marked as to attract the notice of the patient; and just in proportion as it progresses, do the muscles become more and more weak, until, when the final stage of the sclerosis is attained, their contractile power is so completely lost that the patient is bedridden and almost motionless. It is on account of the radical difference between this process and any form of paraplegia that I object to the name "pseudo-hypertrophic paralysis," applied by Duchenne to this disease, and greatly prefer "progressive muscular sclerosis," as expressing accurately the pathological condition present.

Having, then, excluded the possibility of either a cerebral or spinal origin for this disease, I can only offer the somewhat unsatisfactory view of its pathology, that it consists essentially in a perverted nutrition of the muscles affected, probably dependent upon a lesion of the branches of the sympathetic nerve which are distributed to the tissues involved. This opinion that the sympathetic nerve is primarily affected, does not, it is true, rest on any positive or convincing evidence. In a certain number of cases, however, especially in those observed in Germany, there have been symptoms noticed, such as reddish or bluish discoloration of the skin of the affected parts and variations in their temperature, which would certainly indicate some marked disturbance in the vaso-motor supply of the cutaneous vessels, and have accordingly led many of the observers of this disease to adopt this view of its pathology. It must be confessed, however, that such symptoms are not constant, or at least are not present at all stages of every case: thus, in the present instance, the most careful examination fails to determine them. Still, for the present, in default of any exact knowledge or of any more satisfactory explanation, this view of the pathology of progressive muscular sclerosis may be accepted.

I may add that no additional light is to be derived from a study of its causes. It is eminently a disease of infancy and childhood, making its appearance, in the vast majority of cases, between the ages of five and thirteen years. It has, however, been observed to begin in one case at the age of fourteen years; in the present case it was first noticed at the age of fifteen years; and in two cases observed by Benedikt (loc. cit.), and in one by Laycock (loc. cit.), the disease seems to have originated in adult life. The disease is much more common in the male than in the female sex; and, finally, it frequently affords evidence of a hereditary tendency, two or even four cases having been more than once observed in a single family. It usually appears spontaneously, not appearing to depend upon any particular external causes. In single instances it has been attributed to such causes as the influence of cold and damp, or an attack of some eruptive fever. In my own case, the cause assigned by the patient—protracted over-exertion in doing work too heavy for his years—is far more likely to have really influenced the development of the disease. It must be conceded, however, that in its etiology, as well as in its pathology, this curious affection still presents an unsolved problem.

Let me now invite your attention to the relation which this disease bears to other affections. I shall not occupy your time by any lengthy discussion of the diagnosis between progressive sclerosis of the muscles and atrophic infantile paralysis. The suddenness of attack in this latter affection, frequently associated with fever

* This enlargement of the size of the fibrils of the gastrocnemii has also been observed by Leyden (loc. cit.).

or with some cerebral disturbance, as convulsions, the occurrence of complete and more or less extensive paralysis, the gradual disappearance of the paralysis in some parts, while in others it remains permanent, the diminution and ultimate loss of electro-muscular contractility, the occurrence at a later period of fatty degeneration and atrophy of the affected muscles, with arrest in the development of the bones and marked deformities, and the entire absence of any secondary enlargement of the parts involved, constitute a series of distinctive features so clear and decisive as to render the differential diagnosis easy and certain.

A disease from which it is much more important to carefully distinguish progressive sclerosis of the muscles is progressive muscular atrophy occurring in childhood. The especial importance of the relations of these two diseases depends on the fact that both are alike diseases of nutrition of the muscles, thus constituting a group quite distinct from all the forms of true paralysis. In both the disease begins—usually without any apparent cause—insidiously, and progresses slowly but surely. In both the loss of motor power is secondary to the changes in the muscular tissue; in both the muscular degeneration and consequent loss of power almost invariably progress steadily to a fatal result. In progressive muscular sclerosis the positive anatomical proof is still wanting, but analogy, theory, and some special symptoms lead us to believe in the existence of a lesion of the sympathetic nerve system. In progressive muscular atrophy, careful post-mortem examination has repeatedly demonstrated the actual presence of such a lesion. These two diseases, then, stand related to each other as being alike caused by disturbance of the trophic nervous system, but they are at the same time most positively separated from each other by marked differences in their course and symptoms.

Thus, in progressive muscular atrophy, the disease nearly always begins in the upper extremities, and invades subsequently the trunk and lower extremities. Indeed, Duchenne has pointed out that when this disease appears in childhood, which is quite rare, it begins in the face, where it produces atrophy of the orbicularis oris and the zygomatici, and does not extend to the trunk and extremities until after a period varying from two to three years. It then follows the same descending course seen in cases occurring in adults. The atrophy usually affects the muscles irregularly, so that various deformities and vicious positions of the parts involved are developed. Microscopic examination shows a progressive fatty degeneration and atrophy of the muscular fibrils, and in proportion as this increases there is loss of power and of electro-muscular contractility. One further symptom of high diagnostic value is the frequent occurrence of fibrillar contractions in the affected muscles. Finally, the muscles which have progressively atrophied never undergo any secondary enlargement, nor does microscopic examination reveal any lesion of the interfibrillar connective tissue. In all of these particulars, then, progressive muscular atrophy differs widely from progressive muscular sclerosis, which is almost exclusively a disease of childhood, beginning in the muscles of the lower extremities and advancing upwards, producing a peculiar mode of standing and walking, and in which the affected muscles, with or without a stage of atrophy, undergo remarkable enlargement, without fibrillar contractions, and with preservation of electro-muscular contractility till a comparatively late period of the disease. Microscopic examination also shows, even in the early stages of the disease, a marked hypertrophy of the interstitial connective tissue in the affected muscles, together with peculiar changes of the muscular fibrils, not at all resembling fatty degeneration; while later, this sclerotic process terminates in fatty degeneration of the interstitial tissue, and increasing degeneration and atrophy of the muscular fibrils. There is also a want of constant relation between the degrees of sclerosis, of the changes in the muscular fibrils, and of the impairment in muscular power. This hasty summary of the main distinctions between these two affections will show how readily a differential diagnosis can be established.

In regard to the prognosis of progressive muscular sclerosis, the disease may be pronounced incurable, unless treatment is instituted during the earlier stages, before the affected muscles have become markedly enlarged. Even when, however, it has progressed to an advanced stage in certain muscles, its progress in other portions of the body may probably be arrested. The duration of the disease is rarely less than six years, and may extend to upwards of fifteen or twenty. Thus, in the present case, the disease has been in positive existence for five years, and yet has only passed into the second stage, and would probably, even were no treatment adopted, require several more years to run its course. When a fatal result is produced, it is either by the extreme prostration and lowered vitality of the patient, by weakening of the respiratory muscles, favoring pulmonary engorgement, or by some intercurrent disease.

Fortunately, however, it may be safely asserted that treatment, when instituted early and faithfully pursued, exercises a powerful control over the progress of the disease. Unless there are special concomitant symptoms, such as anæmia, epileptiform convulsions, digestive derangement, or the like, there is no clear indication for internal medication, nor has the use of any drugs been followed by decided benefit. Those which may be given most rationally, as tending to modify the nutrition of the nervous system, are the alterative nerve tonics, of which I should be disposed to especially recommend the nitrate of silver. Of course, in addition, care must be taken to improve the state of the blood, if it be anæmic, and to correct any disturbance of digestion. If the case is complicated with epileptiform convulsions, as in my patient, a course of bromide of potassium may be directed with advantage, The remedy, however, from which most good is to be expected, is electricity. This has been used with very great benefit, in the form of faradization by Duchenne, and in that of galvanization by Benedikt and others. I have pointed out to you that the electro-muscular contractility is usually preserved until late in the disease, though very different results are obtained in some cases by the use of the different varieties of current,—the muscles sometimes contracting most powerfully under the application of a faradaic, and at others under that of a galvanic, current. I should recommend the employment of whichever form is found to secure the most active muscular contractions. If the faradaic current be used, it should be applied directly to the affected muscles, or one electrode may be applied over the motor point of the muscle (*i.e.* over the trunk of the motor nerve before it enters the muscle) and the other over its body. If the galvanic current be indicated, one electrode (the copper pole) should be applied over the carotid fossæ, along the anterior border of the sterno-cleido-mastoid muscles, since in this region the cervical portion of the sympathetic nerve is most readily accessible; and the other electrode (the zinc pole) may be applied along the lumbar spine, or over the motor point of the affected muscles. In some cases it may also be advantageous to combine the galvanization of the cervical sympathetic with faradization of the affected muscles. In the present case, I have directed the muscles to be thoroughly faradized every other day. I have told you that the muscles responded quite actively to the stimulus of this current; and already there is a positive improvement in the power of his legs and in

his ability to walk. I am therefore encouraged to persevere in this treatment, in the hope that by its prolonged use the progress of the disease may be ultimately arrested.

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This disease was first recognized and described as a distinct affection by Duchenne in 1861, although some few unrecognized cases had been put on record before that date. Since that time there have been forty-eight cases, including the present one, published. This does not include four cases referred to as published by Meryon (loc. cit.), but which are somewhat doubtful, though two at least appear to have been genuine instances of this disease. The total number of cases may therefore be estimated at about fifty.

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The Bromides in the Treatment of the Summer-Complaints of Children.—Dr. F. G. Williams (*Chicago Medical Examiner*, June, 1871) has had great success in the treatment of these affections with the bromide of potassium, given in from one-half- to two-grain doses, and repeated every one, two, or three hours, according to the age of the patient and the symptoms presented by him. The bromide may be given dissolved in a little syrup of rhubarb, to which a small quantity of sulphate of morphia may be added in cases in which there is much pain or restlessness.

ORIGINAL COMMUNICATIONS.

PHYSIOLOGICAL ACTION OF CONGRESS WATER.

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Considering the extensive use in all ages, and the undoubted utility, of mineral waters, it is surprising that so very few zoochemical analyses of the excretions as affected by them have been made. In Germany, Mosler, Beneke, and others have made several elaborate investigations, but I am not aware of any similar work in this country.

In the following experiments, the hour of rising was 7½ A.M., that of retiring 9 P.M.; giving thirteen and a half hours for work, and ten and a half for sleep. Of the working-hours, I devoted eight to exercise—similar as possible—and five to study. I breakfasted at 8 A.M., dined at 12 M., and supped at 5½ P.M. At breakfast I ate forty grammes of bread, fifteen grammes of butter, ninety-six grammes of eggs, and one gramme of salt; at dinner, eighty grammes of bread, thirty grammes of butter, one hundred grammes of beef, and one hundred and seven grammes of apples; at supper, forty grammes of bread, fifteen grammes of butter, and of beef and apples each a hundred grammes. At each meal I also ingested two hundred cubic centimetres of water. The weight of the body was taken an hour after each meal, and the mean of these three weights was taken as the daily weight. The phosphoric acid of the *alkalies* was obtained by precipitating the *earthy* phosphates in fifty cubic centimetres of urine with a few drops of ammonia, filtering, and collecting the filtrate with the ammoniacal washings of the residue, then treating the filtrate with acetic acid till it was neutral, and analyzing by volumetric solution of acetate of uranium. Having previously ascertained the whole amount of phosphoric acid in fifty cubic centimetres, I obtained that of the earths by simple deduction of that of the alkalies. In the other analyses I employed the same means as detailed in No. 4 of *The Medical Times*. The amount of free acid is indicated in grammes of oxalic acid. Observing the preceding conditions, at an average temperature of 36° F., I made the observations noted in the following table, in which everything is expressed in grammes, except the quantity of urine, which is in cubic centimetres:

Weight of Body.		Fæces	Urine. Quantity.	Urea.	Chlor. of Sodium.	Sulphuric Acid.	Phosph. Acid of Alkalies.	Phosph. Acid of Earths.	Free Acid.
54260	1st day.	30	767	30.06	8.13	2.00	1.303	.284	1.35
53817	2d "	61	708	29.73	5.73	2.04	1.805	.297	2.11
53799	3d "	68	795	30.85	9.54	2.12	1.650	.272	2.65
53474	4th "	15	860	31.30	8.08	2.35	1.685	.379	2.09
53297	5th "	34	795	32.51	5.64	2.29	1.566	.294	2.24
Average		41.6	785	30.89	7.42	2.16	1.601	.305	2.08

The above table shows the mean quantity of fæces, urine, urea, chloride of sodium, sulphuric acid, phosphoric acid of earths and alkalies, and free acid, for five days when in good health.

On the day subsequent to these experiments I imbibed three hundred cubic centimetres of recently-bottled Congress water—temperature 50° F.—half an hour before breakfast. I did so for the next three days, but on the following two days took four hundred cubic centimetres. The mean temperature was 29° F. The table

appended shows the results, all the preceding circumstances being observed:

Weight of Body.		Fæces	Urine.						
			Quantity.	Urea.	Chlor. of Sodium.	Sulphuric Acid.	Phosph. Acid of Alkalies.	Phosph. Acid of Earths.	Free Acid.
53319	1st day.	40	959	34.42	8.53	2.49	1.469	.363	3 16
52299	2d "	27	908	33.59	10.62	2.51	1.334	.481	2.81
53329	3d "	117	854	31.93	7.09	2.37	1.246	.427	2.15
53436	4th "	50	843	33.46	8.00	2.40	1.205	.551	2.63
53582	5th "	64	951	34.83	10.55	2.24	1.255	.418	2.27
Average		59.6	903	33.64	8.94	2.40	1.289	.448	2.60

By comparing the above tables, we see that the body, during the normal days, lost weight, while on Congress-water days it gained weight. To explain the cause of increase of weight, I made a second series of experiments.

During this series I arose at 5¾ A.M., and retired at 10¼ P.M. The amount of food was not limited. For the three days, giving the normal value of excretions, I ate daily on an average for breakfast, at 7½ A.M., ninety-six grammes of eggs, twenty-six grammes of butter, fifty-eight grammes of bread, with four hundred cubic centimetres of coffee; for dinner, at 12 M., thirty-eight grammes of bread, one hundred and five grammes of beef, eighteen grammes of butter, one hundred and thirty-eight grammes of apples, with six hundred cubic centimetres of water; for supper, at 6¼ P.M., forty-eight grammes of bread, seventeen grammes of butter, thirty-five grammes of dried beef, eighty-seven grammes of cakes, with four hundred cubic centimetres of coffee; and at 8¾ P.M., two hundred cubic centimetres of water. The fractional parts of grammes are omitted in the ingesta of both series. During the three days when Congress water was taken, I took an average daily amount, for breakfast, of ninety-six grammes of eggs, twenty-nine grammes of butter, fifty-eight grammes of bread, and four hundred cubic centimetres of coffee; for dinner, thirty-eight grammes of bread, one hundred and twenty-six grammes of beef, eighteen grammes of butter, one hundred and forty-one grammes of apples, with six hundred cubic centimetres of water; for supper, forty-eight grammes of bread, seventeen grammes of butter, eighty-seven grammes of cakes, thirty-five grammes of dried beef, with four hundred cubic centimetres of coffee; and two hundred cubic centimetres of water at 8¾ P.M. The fluid at meals was the same in quantity each day during both normal and Congress-water days. Four hundred cubic centimetres of Congress water—temperature 50° F.—were taken half an hour before breakfast. Between 8 A.M. and 10 A.M., 1 P.M. and 2 P.M., 4 P.M. and 6 P.M., 7 P.M. and 8 P.M., we walked about a quarter of a mile. The other hours were devoted to study and work, as similar as possible.

The body-weight was taken with a balance that, when loaded with two hundred and fifty pounds, will turn with a fiftieth of a pound. By the term "insensible perspiration" I mean the conjoint excretion of the skin and lungs. It was estimated by weighing ingesta, excreta, and body. To find the solids of the urine, I used Trapp's formula. The specific gravity was taken by the specific-gravity bottle: no thermometric corrections. To find the solids for fractional parts of the day, I took the specific gravity of the whole of the urine of that period.

The uric acid was determined by precipitating with hydrochloric acid and weighing on a dried filter. Two hundred cubic centimetres of urine were used for it. In my calculations I made one cubic centimetre of the fluids ingested equal one gramme.

During the normal days I ingested, as a daily average, 1600 c.c. of fluids and 668.3 grammes of solids, = 2268.3 grammes.

The body lost in weight a daily average of 157.2 grammes.

The daily mean excretion during the normal days was 2425.5 grammes.

During Congress-water days I ingested, on an average, daily, 2000 c.c. of fluids and 695.1 grammes of solids, = 2695.1 grammes.

The mean daily loss of body-weight was 66.5 grammes.

The average daily excretion on Congress-water days was 2761.6 grammes.

Thus the daily excess of excreta on Congress-water days over those on normal days was 336.1 grammes.

The daily excess of ingesta on Congress-water days over those on normal days was 400 c.c. of water and 26.8 grammes of solids, a total of 426.8 grammes.

Thus 90.7 grammes of the daily ingesta of the Congress-water days were retained in the body: hence the body would have a *relative increase of weight from the use of* 400 *c.c. of Congress water.*

We will now consider the relations between the body-weights in connection with ingesta and egesta. We take the *normal* days. During the hours from 6 A.M. to 12 M. the body-weight decreased, on an average, 166.3 grammes. During the hours from 12 M. to 6 P.M. the mean increase of body-weight was 30.3 grammes. (Difference from 6 A.M. weight, —136 grammes.) During the hours from 6 P.M. to 6 A.M. the body had a mean decrease in weight of 21.2 grammes. (Difference from 6 A.M. weight, —157.2 grammes.)

Now, taking the *Congress-water* days, we find that during the hours from 6 A.M. to 12 M. the mean body-weight decrease is 40.6 grammes. In this period 400 c.c. of water and 3.3 grammes more of solids were ingested than in the same period of normal days.

Supposing the nutritional changes of the body to act in this period with the same intensity as on the normal days, we should have an increase of body-weight of 237.0 grammes. Such increment we find is not the case. But we perceive that 277.5 grammes more are excreted than on the corresponding period of normal days. Hence the ingestion of 400 *c.c. of Congress water in early morning increases considerably the body-excretion of morning hours.*

From 12 M. to 6 P.M. the mean body-weight increase was 55.7 grammes. (Difference from 6 A.M. weight, +15.1 grammes.)

Comparing the increase of weight on Congress-water days from 12 M. to 6 P.M., with that on the corresponding period of normal days, we have a plus difference of 25.4 grammes. The ingesta of this period exceeded those of the corresponding period of normal days by 23.5 grammes, while the excreta were less by 1.9 grammes.

The difference of each period from its morning weight shows that the body, instead of losing, as on normal days, by 6 P.M. 136 grammes, gained on Congress-water days 15.1 grammes. The diminished temperature will not account for this diminished excretion. Hence we infer that the 400 *c.c. of Congress water taken in early morning causes* no increase of excretion, but rather *a decrease in the afternoon hours.*

From 6 P.M. to 6 A.M. the body lost weight, on an average, 81.6 grammes. (Difference from 6 A.M. weight, —66.5 grammes.)

The amount of ingesta less than that of the same period of normal days was .06 grammes, while the excess of egesta was 60.3. Now, this loss of weight is greater than that of the same period of normal days. Hence we conclude that the 400 *c.c. of Congress water taken in early morning also causes an increased excretion in*

the night hours, though the increased excretion is not so great as that of the morning hours.

In the following table, the whole excretion of the body for the three normal days and for the three Congress-water-days, as well as the fractional parts of those days, is given. The variation for the whole period, together with the fractional variations for the fractional periods, is also exhibited, and explains the body-weight fluctuations.

NORMAL DAYS.

6 A.M.—12 M.	12 M.—6 P.M.	6 P.M.—6 A.M.	Total.
2238.9 grammes.	2611.1 grammes.	2426.7 grammes.	7276.7 grammes.

CONGRESS-WATER DAYS.

3071.6 grammes.	2605.5 grammes.	2607.7 grammes.	8284.8 grammes.
+832.7 "	—5.6 "	+181.0 "	+1008.1 "

Hence we again conclude that the *ingestion* of 400 *c.c. of Congress water* at 7 A.M., half an hour before breakfast, *causes an increase of the excretions of the body in the morning and night hours, but a decrease of them in the afternoon hours.*

The following table shows how, under the ingestion of Congress water, the greater excretion takes place for entire days:

NORMAL DAYS.

Insensible Perspirat.	Renal Excret.	Intestinal Excret.	Total.
3410.0 grammes.	3448.7 grammes.	418 grammes.	7276.7 grammes.

CONGRESS-WATER DAYS.

3324.0 grammes.	4575.8 grammes.	385 grammes.	8284.8 grammes.
—86.0 "	+1127.1 "	—33 "	+1008.1 "

The urinary excretion is increased, while the insensible perspiration and intestinal excretion are diminished. The decrease of insensible perspiration by eighty-six grammes is probably due to a lower temperature, as is also part of the increased renal excretion; but the major part of the diuretic effect is due to the Congress water. The decrease of intestinal excretion in this series is thirty-three grammes, but we believe there would have been an increase had the experiments continued over five days, as in the first series the increase was eighteen grammes. In the next table we see in what direction for separate parts of the day the increased excretion takes place, and also at what time the Congress water leaves the body:

6 A.M.—12 M.			12 M.—6 P.M.			6 P.M.—6 A.M.		
Insensible Perspiration.	Renal Excretion.	Intestinal Excretion.	Insensible Perspiration.	Renal Excretion.	Intestinal Excretion.	Insensible Perspiration.	Renal Excretion.	Intestinal Excretion.
287.2 grms.	330.3 grms.	128.6 grms.	401.0 grms.	458.7 grms.	10.6 grms.	448.4 grms.	360.4 grms.	0
CONGRESS-WATER DAYS.								
339.4 grms.	614.4 grms.	70 grms.	336.0 grms.	484.8 grms.	47.6 grms.	432.5 grms.	426.0 grms.	10.6 grms.
+52.2 "	+284.1 "	—58.6 "	—65.0 "	+26.1 "	+37 "	—15.9 "	+65.6 "	+10.6 "

The decrements indicated in the table of insensible perspiration and intestinal excretion are probably not the real results of the action of Congress water, the causes having been already mentioned. On inspection of the table, we see that the insensible perspiration and renal excretion of the morning hours are increased, while the intestinal excretion is diminished; that in the afternoon the insensible perspiration is diminished, while the intestinal and renal excreta are increased; and that in the night the same relation is preserved. From the above we conclude that the ingestion of 400 c.c. of Congress water increases in the morning hours the insensible perspiration and renal excretion, and that the latter is also increased in the afternoon and night hours; also, that the Congress water leaves the body at the same periods at which these excretions are increased,—that is, in greatest quantities in morning hours, next in night hours, and the least in afternoon hours; further, that the diminution of excretion in the afternoon hours seems compensatory of the increment in morning hours.

From the above the following table is constructed. We estimate that the insensible perspiration on normal days contains seventy-five per cent. of water,—on Congress-water days the same; and that the intestinal excretion normally and on Congress-water days has seventy per cent. The urinary water is determined by subtracting the known amount of solids from the whole urine. For the solids ingested in morning and evening we allow 40 per cent. of water, and for those of midday 88 per cent.

WATER INGESTED.			WATER EXCRETED.		
6 A.M.—12 M.	12 M.—6 P.M.	6 P.M.—6 A.M.	6 A.M.—12 M.	12 M.—6 P.M.	6 P.M.—6 A.M.
472.0 grms.	864.5 grms.	675.0 grms.	625.4 grms.	755.1 grms.	678.5 grms.
CONGRESS-WATER DAYS.					
873.3 grms.	885.2 grms.	675.0 grms.	905.5 grms.	757.6 grms.	737.4 grms.

APPROXIMATIVE AMOUNT OF WATER IN BODY.

NORMAL DAYS.

12 M.	6 P.M.	6 A.M.
—153.4	—44.0	—47.5

CONGRESS-WATER DAYS.

—32.2	+95.4	+33.0

The table shows that there is more water in the organism on Congress-water days than on normal days; also, that on Congress-water days we have the greatest quantity of water in the system at 6 P.M.

On examining the daily loss of weight,—66.5 grammes during corresponding days,—we have the greatest part of it at night, the next amount in the morning, and none at all in the afternoon. Now, the urinary solids are increased, but the solids of the diminished insensible perspiration and intestinal excretion will not account, except in small part, for the relative increase of weight, —90.7 grammes. Now, as the daily increase of the water of the economy on Congress-water days is 80.5 grammes, we conclude that the relative increase in weight is due to retention of water, or, in other words, that the body is more nearly saturated with water. We believe this to be the cause of increase of weight in the first series of experiments on Congress-water days.

We will now examine the changes of the urinary constituents in the first series of experiments. The daily increase of urea was 2.8 grammes. The uric acid in the second series of experiments was possibly lessened. The sulphuric acid was increased daily .24 grammes, and the increase is nearly parallel with that of urea. The phosphoric acid was little altered, taking into consideration the insufficiency of food. More of the phosphoric acid, however, was united to earths than on normal days, due probably to the magnesia and lime of Congress water. The free acid was increased, contrary to expectation. Carbonic acid, appearing in urine as a carbonate, and the carbonates of the Congress water, would certainly be supposed to diminish the acidity. The chloride of sodium was increased. This increase is due both to the action of the water and its

chloride of sodium. The Congress water did not deprive the body of any of its own chloride of sodium. As to this action on the tissues by Congress water, we believe it to be due in major part to the saline elements. Assuredly the water and its temperature (50° F.) had little to do with the nitrogenous increase, if previous observations are reliable. As to which one of the saline elements is the principal cause, we can give no answer till the effect of each one on the organism has been determined. Past experiments seem to show that chloride of sodium has little effect.

URINARY SOLIDS.

6 A.M.—12 M.	12 M.—6 P.M.	6 P.M.—6 A.M.
10.3 grms.	11.7 grms.	18.2 grms.

CONGRESS-WATER DAYS.

12.4 grms.	12.5 grms.	20.3 grms.

On examination of the increase of solids on separate periods of Congress-water days, we find the increase of morning and night hours about equal. It is probable that the increments of morning and night are about equally made up of an increase in the quantity of urea and of chloride of sodium; also, that the afternoon increase is mainly composed of urea, as the retained water would probably also contain some of its chloride of sodium. Besides, when chloride of sodium is taken with a meal, a portion of it emerges within six hours, and another portion is retained for some time, and then appears in the urine.

In the following table, representing the hourly alterations of urinary solids for normal and Congress-water days, we see that they are increased at every hour of Congress-water days, except from 10½ A.M. to 12 M.:

QUANTITY AND SOLIDS OF URINE PER HOUR (IN CUBIC CENTIMETRES AND GRAMMES).

	Day.	6—8½.		8½—9½.		9½—10½.		10½—12.		12—2.		2—4.		4—6.		6—10.		10—6.	
		Qu.	Sol.	Qu.	Sol.	Qu.	Sol.	Qu.	Sol.	Qu.	Sol.	Qu.	Sol.	Qu.	Sol.	Qu.	Sol.	Qu.	Sol.
Normal Days.	1st.	18.4	.92	42	1.26	39	1.09	32.6	1.30	41	1.39	57.5	2.30	38	1.52	35	1.82	20	1.24
	2d.	20.8	1.44	42	1.68	52	2.08	47.1	1.94	90	1.44	81.5	1.54	40	1.36	40	1.76	25.7	1.23
	3d.	32.8	1.37	101	2.22	160	1.61	145.3	1.59	153	.97	99	1.68	75	1.65	46	1.74	25.5	1.27
		24.0	1.24	61.6	1.72	83.6	1.59	75.0	1.61	94.6	1.26	79.3	1.84	51	1.51	40.3	1.77	23.4	1.24
Congress-Water Days.	1st.	57.2	1.85	258	1.29	103	1.04	160	1.60	87	2.26	87	2.52	34.5	1.24	44.5	2.04	22.2	2.49
	2d.	37.6	1.24	124	1.73	181	0.90	87.3	.83	193	0.83	70.5	1.55	44	1.49	39.2	1.49	22.7	1.18
	3d.	59.6	1.48	78	2.65	77	2.92	117.3	2.11	161	2.07	58	2.20	83	2.82	81.7	2.77	28.2	1.29
		51.4	1.52	136	1.89	120	1.62	121	1.51	113	1.72	71.8	2.09	53.8	1.85	55.1	2.10	24.3	1.65

As regards the effect of Congress water on the appetite, we see that it slightly increases it, as one would expect from the destructive metamorphosis of the nitrogenous tissues.

Having examined the effects of Congress water on the physiological processes of the body, we will see how the results compare with those produced by a similar water. Nauheim water and Congress water both contain carbonic acid, chloride of sodium, chloride of potassium, and carbonate of lime; the former having also chloride of calcium and magnesium, and the latter bicarbonate of magnesia. Nauheim is, however, richer in these main ingredients. Beneke has proved that Nauheim water increases the weight of the body by a higher degree of saturation with water; that it increases the morning and afternoon excretion of the body, but lessens that of night hours. We have tried to prove that Congress water lessens afternoon excretion, and increases morning and night excretion. Nauheim increases all the excretions on separate periods of the day, which would probably have been the result of my experiments with Congress water if, as in Beneke's experiments, the temperature had been higher, and the series had extended over periods of six days. The decrease of night excretion by Nauheim water was due to retention of water. During the whole day, when Nauheim was used, the body was in a higher degree of saturation with water. The action of Nauheim on urinary elements was in the main similar; and it slightly increased the demand of food. As regards my breakfasts, they merit the observation of Beneke: "Es ist beiläufig bemerkt (interessant hiermit zu erfahren), dass diese in den meisten Familien der höhern Gesellschaftsklassen Nord- und Mitteldeutschlands gebräuchliche Qualität und Quantität des Frühstücks nicht hinreicht, um die Bedürfnisse des Organismus bei mässiger Arbeit bis zur Mittagszeit zu befriedigen."

The action of Nauheim and that of Congress water on the body being very similar, we would naturally expect that Congress water would be at least worthy of recommendation in the same diseases in which Nauheim has been found useful. Hence we would use Congress water in the scrofulous and rheumatic diatheses; for by this means we would hasten the destructive and constructive metamorphoses.

Carbonated waters do not seem to be contra-indicated in cardiac hypertrophies, vascular stenoses, and valvular insufficiencies; at least this is the case with Nauheim, according to Beneke.

Congestion, catarrh, and flexion of the uterus are also probably benefited by Congress water, in connection with other treatment. The use of it in chronic gastric catarrh associated with congestion of the chylopoietic viscera has been of undoubted value.

Finally, Beneke holds that an aperient action of a chloride-of-sodium water is not necessary to its successful effect; also, that the ingestion of the water for an aperient purpose is erroneous, as it causes colonic innervation, and thence chronic constipation. In conclusion, I acknowledge many obligations to Beneke's work: "Ueber Nauheim's Soolthermen und deren Wirkungen auf den gesunden und kranken menschlichen Organismus," 1859,—a model for such investigations. As regards the medical value of this mode of investigation, we will quote Böcker, than whom no one is more able to speak on the subject: "Wie ein Genuss- oder ein Arzneimittel auf die beiden Grundprocesse des organischen Lebens, als welche wir Mauser und Verjüngung anzusehen haben, wirkt das zu wissen ist das erste Erforderniss in der Pharmakologie und eine solche Erkentniss bildet die Grundlage der rationellen Pharmakologie."

Appended are tables on which preceding statements are based:

	Day.	Quantity of Ingesta.			Body-weight.		Quantity of all Excreta.	Renal Excretion.		Intestinal Excretion.	Insensible Perspiration.
		Fluid c.c.	Solid.	Total.	Increase.	Decrease.		Quantity of Urine.	Uric Acid.		
Normal Series.	1st.....	1600	653	2253	...	272.4	2776.7	749	.439	418	3410.0
	2d.....	1630	641	2241	154.4	...		1037	.372		
	3d.....	1600	711	2311	...	353.8		1603	.216		
	Average	1600	668.3	2268.3	...	157.2	2425.5	1129.6	.336	139	1136.6
Congress-Water Series.	1st.....	2000	656	2656	...	254.9	2854.8	1588	.232	385	3324.0
	2d.....	2000	601	2601	18.2	...		1484	.200		
	3d.....	2000	828.4	2824.4	36.3	...		1437	.245		
	Average	2000	695.1	2695.1	...	66.5	2761.6	1503	.225	128	1108.0

	Body-weight.						Quantity of Urine, c.c.			Urinary Solids.			Insensible Perspiration.			Intestinal Excretion.		
	6—12.		12—6.		6—6		6—12.	12—6.	6—6.	6—12.	12—6.	6—6.	6—12.	12—6.	6—6.	6—12.	12—6.	6—6.
	Increase.	Decrease.	Increase.	Decrease.	Increase.	Decrease.												
Normal Series.	...	163.3	27.2	...	...	136.3	176	273	300	8.6	13.4	18.6	331.1	594.6	603.0	228	...	...
	...	...	109.1	45.4	45.3	...	239	432	366	11.9	11.2	18.3	285.1	332.3	355.6	56	...	...
	...	335.6	...	...	27.3	...	561	654	388	10.4	10.4	17.8	245.6	276.2	386.8	102	32	...
		166.3	30.3			21.2	325	453	351	10.3	11.7	18.2	287.2	401.0	448.4	128.6	10.6	...
Congress-Water Series.	...	457.4	212.5	...	...	9.1	815	417	356	9.78	12.9	18.8	407.3	275.3	498.9	210	...	...
	136.1	...	...	199.5	81.7	...	530	615	339	13.7	9.8	16.2	276.1	374.7	377.2	...	51	...
	199.5	...	154.3	...	....	317.5	480	494	553	13.9	14.9	25.9	334.8	358.1	511.6	...	92	32
		40.6	55.7			81.6	608	478	416	12.4	12.5	20.3	339.4	336.0	432.5	70	47.6	10.6

	Day.	Thermometer.			Barometer.		
		6.30 A.M.	2 P.M.	9 P.M.	6.30 A.M.	2 P.M.	9 P.M.
Normal Days.	1st....	64	76	74	29.5	29.5	29.5
	2d.....	63	68	65	29.3	29.2	29.1
	3d.....	62	62	60	29.4	29.5	29.4
Congress-Water Days.	1st....	52	59	52	29.4	29.3	29.4
	2d.....	42	60	52	29.4	29.3	29.3
	3d.....	56	65	66	29.3	29.4	29.5

Mercurial barometer. No temperature-corrections.

TWO CASES OF DIABETES MELLITUS

SUCCESSFULLY TREATED WITH SULPHITE OF SODA.

BY G. B. KIEFFER, M.D.,

Carlisle, Pa.

IT can scarcely be doubted that in diabetes mellitus there exists a morbid condition not only of the spinal cord, but also of the organs of assimilation and nutrition. The disorder of the latter is probably dependent upon a derangement of the former, for it is well known that either an anæmic or an atonic condition of the spinal cord will almost certainly cause a hyperæmia of the organs of assimilation, especially if that portion be affected from which the nerves supplying these organs take their origin. Now, if the functions of the spinal cord are below the normal standard, derangement of the physiological or chemical forces must of necessity take place, and this derangement may possibly give rise to an excess of action by which not only starch, but other proximate principles of the food, are converted into glucose.

Unfortunately, our ideas of the pathology of diabetes are almost wholly derived from the post-mortem appearances presented in cases of this disease. These will frequently be deceptive, for, as may be imagined, secondary lesions are readily induced by the circulation of a foreign and probably injurious element in the blood, and by the enormous work performed by the kidneys in the excretion of the sugar.

It has therefore seemed to me that in the treatment of diabetes there are two prominent indications: 1. To restore the nervous system, and especially the spinal cord, to a healthy condition. 2. To arrest, if possible, the rapid chemical action at work in the portal system, and especially in the liver. By keeping these indications definitely in view, it has been my good fortune, within the last three years, to have proof of the good effects of a treatment based upon them. Only two cases of this disease have come under my charge during that time, but, the result having been in both instances exceedingly favorable, I have determined to report them.

Case I.—Mrs. ——, a lady formerly residing in Virginia, whose son was a physician of respectable attainments, and whose previous health had always been good, found her strength failing without apparent cause. At length she was obliged to take to her bed, and was regarded by her son and other excellent physicians as hopelessly ill.

At this juncture my friend Dr. W. W. Dale, of this place, was written to by one of the family, describing the case and asking advice. He presented the letter to me, and, after a due consideration of the symptoms detailed, it seemed to us that the case was one of diabetes, and we prescribed accordingly, requesting at the same time that a specimen of the urine should be sent to us immediately. On its arrival, it was

found, on analysis, to contain a large amount of sugar, and the diagnosis was consequently fully confirmed.

With the view of meeting the first indication set forth in this paper, the following prescription was ordered:

℞.—Ext. Nux Vom., gr. x;
Ferri Redact., ʒj;
Quin. Sulph., ℈ij;
Pulv. Aloes, gr. x.

M. et fiat pil. No. xl.

S.—One three times a day before meals.

And, with the hope of arresting the chemical action, she was directed at the same time to take the following:

℞.—Sodæ Sulphitis, ℥ss;
Aquæ, f℥vj; M.

S.—A dessertspoonful four times a day in a little water.

Improvement almost immediately followed, and in a very short time she had sufficiently recovered her strength to leave her bed. The urine gradually decreased in quantity, her strength returned, and five months later, while on a visit to some of her friends, she actually came to Dr. Dale's office, being, to all appearances, in the enjoyment of excellent health. This patient has since died of an attack of acute pneumonia, caused by exposure; but up to the time of her death there was not the least indication of a return of her former disease.

The following case is practically of more interest, since it was under my own immediate care, and the facts as here presented are taken from notes recorded at the time:

Case II.—Master E., a lad seventeen years of age, of bilious temperament, and rather large for his age, was brought to my office by his father, a farmer, on the 10th of October, 1869. He had been an invalid for a little more than a year, and had taken "considerable medicine" for disease of the stomach and liver. He complained of depression of spirits, pain in the head and back, loss of appetite and strength, of inability to work, and of a disposition to avoid company. He was somewhat emaciated, and had a cadaverous look, but his tongue was natural and his pulse was nearly normal. On inquiry, I found some disturbance of the urinary function, but to what extent the patient could not say, except that he was obliged to rise to pass his urine frequently during the night. I tested his urine, and found a large quantity of sugar. Diagnosis, diabetes. The following prescriptions were ordered:

℞.—Ferri Pyrophosph., ʒj;
Ext. Nux Vom., gr. x;
Quiniæ Sulph., ℥ss;
Opii, gr. vj.

M. et fiat pil. No. xl.

S.—One half an hour before each meal.

℞.—Sodæ Sulphit., ℥ss;
Syr. Zingiber., f℥j;
Aquæ, f℥vij. M.

S.—A dessertspoonful four times a day, an hour after meals, and at bedtime.

He was allowed a generous diet, including milk and cream, but restricted from all acids, fried meats and vegetables, rich pastry, fat meats,—especially pork,—coffee, and sugar. He was also directed to take a general bath three times a week, and to use frequent frictions to the spine. This constituted his whole treatment during all the time he was under my charge. The improvement was exceedingly rapid. On November 1, I requested him to measure carefully, once a week, the quantity of urine voided during twenty-four hours, with the following results:

November	1,	10½ qts.	1870, January	29,	4⅔ qts.
"	7,	9 "	February	5,	4¾ "
"	14,	8 "	"	12,	4½ "
"	21,	7½ "	"	19,	4¼ "
"	28,	" "	"	26,	4 "
December	5,	6½ "	March	4,	4 "
"	12,	" "	"	17,	3¾ "
"	19,	6 "	"	29,	3 "
"	26,	5⅔ "	April	7,	3 "
1870, January	4,	5½ "	"	23,	2½ "
"	17,	5 "	June	7,	1½ "
"	22,	5 "			

All medication was now discontinued, and ten days later he reported that he had passed, as before, one and a half quarts in twenty-four hours. The urine was again tested, and no sugar was detected. Since then his health has been good, except in November last, when he had a slight attack of typhoid fever; and now he is looking as strong and vigorous as though he had never been ill.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY OF PENNSYLVANIA.

CLINIC OF PROFESSOR AGNEW, MAY 17, 1871.

Reported by Dr. Elliott Richardson.

DISLOCATION OF SHOULDER-JOINT.

C. B., æt. 52, fell on last Monday, the 15th inst., from a door-step to the pavement, striking his right arm. Upon comparing the shoulders a difference is seen. On the left side the shoulder is higher and rotund, and the arm hangs perpendicularly from the shoulder. On the right or injured side, however, the shoulder is not only lower, but the arm itself is relatively lower than on the sound side; the deltoid muscle is flat, and the acromion process projects so that the finger can be easily introduced between it and the head of the humerus. The elbow of the injured arm can with great difficulty be brought into contact with the side of the body, and other motions are limited.

On putting the hand in the axilla, a rounded prominence can be felt, which, on rotating the humerus, is found to rotate with it; this is the head of the humerus. When motion is made, little or no pain is felt; this would not be the case if fracture existed.

Therefore, the diagnosis in this case is *luxation of the head of the humerus downwards* into the axilla, the most common form of luxation in this region. After the head of the bone has been in the axilla for some time, it is drawn upwards by the deltoid and clavicular portion of the pectoralis muscles, until it rests firmly against the under surface of the coracoid process.

It is necessary, before making a prognosis, in cases of luxation of the humerus, to take into consideration the length of time that has elapsed since the injury was received, as well as the extent of injury at the time of accident. When the displacement has existed three or four months, very firm adhesions are apt to have taken place, rendering reduction either impossible or attended with danger from rupture of some of the large blood-vessels of this region. If there has been severe contusion of the shoulder, followed by much inflammatory action, the production of these adhesions is much more rapid and complete.

[Reduction was easily accomplished by La Motte's method, fixing the scapula by placing the foot upon the acromion process and making extension by drawing the arm upwards.

A Velpeau bandage was applied to the injured arm and directed to be retained for two weeks.]

NECROSIS OF SEVERAL BONES.

W. M., æt. 14, presents a curious-looking tumor on the ring-finger of his right hand. This tumor is about one inch in diameter, and situated on the dorsal aspect of the first phalangeal joint. This growth bears a strong resemblance to an enchondroma, but on introducing a probe through a small opening, necrosed bone is detected.

Upon looking at the other fingers, cicatrices are found where fragments of dead bone have been extruded. A portion of necrosed bone is also detected in the little finger. The parents of the boy inform us that for the last six years he has been subject to this trouble, and small spiculæ of dead bone have come away from different parts of the body.

The peculiar appearance of this growth upon the finger is due to an implication of the synovial membrane of the joint.

Upon auscultating the lungs, prolonged expiration is heard,—another evidence of strumous cachexia.

The case will be treated, for the present, with remedies

adapted to the general condition, and he will be ordered to take

Syr. Ferri Iodid., gtt. iij;
Ol. Morrhuæ, ʒij,

three times a day.

DEFORMITY OF HAND FROM CICATRIX.

W. McC., æt. 12, applies for the relief of this deformity. The middle, ring, and little fingers of the left hand are drawn down into the palm, and firmly held there by bands of tissue, —the cicatrix of an old burn. This does not involve the tendons, but the skin and fasciæ only.

Dr. Agnew decided to divide the bands of tissue, with a view to restoring the fingers to a proper position and to usefulness. The knife was introduced between the band of dense tissue and the tendon, transfixing the parts at a point opposite the upper third of the first phalanx, and an incision was made downwards and forwards on the palmar surface of each finger, cutting a tongue-shaped flap about three-fourths of an inch long, which was allowed to contract. The anchylosis of the fingers was then broken up, and the lateral edges of each wound were approximated by silk sutures. A compress moistened with a mixture of tincture of opium and water, one part to six, was applied, and the hand bound upon a straight palmar splint, well padded.

CORRESPONDENCE.

ANNUAL MEETING OF THE PENNSYLVANIA STATE MEDICAL SOCIETY AT WILLIAMSPORT.

THE late convention of the State Medical Society will not be particularly remembered hereafter on account of the amount of business transacted; for, beyond the exhibition of one or two improvements in surgical appliances, the reading of some statistics, and the presentation of the usual reports of county societies (which latter were not read, but referred to the Committee on Publication), not much was accomplished. True, the address, delivered by Prof. Gross at the handsome little Academy of Music, was a production of pre-eminent merit, and well worthy of its author. It was no less comprehensive in its vast gleanings than truthful and original in its deductions, and, independent of its general interest, attracted attention by its forcible style and by the manner of its delivery. But the address, delivered at night, and listened to not only by the Medical Convention, but by the Editorial Congress —also in session at Williamsport—and many ladies, seemed rather a bright auxiliary than a regular part of the proceedings.

The passage of one resolution and the rescinding of another, however, will make the present convention memorable. The former was offered by Prof. Gross, and was as follows:

"*Whereas*, The meetings of our Society have hitherto been, in great degree, barren of scientific and literary papers, and therefore deficient in actual interest; therefore be it

"*Resolved*, That it shall be the duty of the President annually to appoint some member to deliver an address in medicine, an address in surgery, and an address in obstetrics, reviewing the progress during the previous year of these respective branches of medicine and their collateral sciences."

The resolution rescinded was the famous one of 1860, whereby members of the association were prevented from consulting with female physicians or with physicians who held positions in women's colleges or hospitals.

The first shot fired on this subject was by Dr. Washington L. Atlee, who stated that this convention at its last session had moved to refer this question of consulting with females to the American Medical Association; and as that body, by admitting Dr. Thomas as a delegate from the Women's Hospital, had practically decided the matter, he therefore moved that all resolutions affecting the status of women's colleges and female physicians be rescinded.

Dr. Atkinson denied the statement of Dr. Atlee relative to the admission of Dr. Thomas, and furthermore stated that he (Atkinson), as permanent Secretary of the American Medical Association, would, in the present condition of the question, refuse to place the name of Dr. Thomas upon the roll of that Association.

Dr. Andrew Nebinger, in slow and deliberate rhetoric, opposed the rescinding of the resolution, and kept the floor until the hour of adjournment. He also occupied the initial hour of the afternoon's session, and was the only one who spoke against Dr. Atlee's resolution.

Dr. Trail Green, of Easton, stated that at the time the original resolution was passed it probably represented the feeling of the profession, but a different state of affairs exists now. He said that women have taken precedence in the completeness of their medical education, and cited the Women's College of New York as having a board of examiners composed of such men as Willard Parker and Austin Flint. He also said they (the women) are ahead of the men in having so divided their studies that both courses shall not be attended in the same year, thus preventing the manufacture of so-called doctors in ten months, as can be done in connection with some of the medical colleges for male students. In conclusion, Dr. Green remarked that menstruation, and another condition with which men have a good deal to do, should be no bar to the rescinding of the resolution under consideration.

Dr. J. Solis-Cohen moved to amend the resolution by adding to it that nothing in the rescinding shall be construed so as to allow women to be represented in this Society. The amendment was accepted, and proved a sufficient sop to Cerberus, for a call immediately afterwards to postpone indefinitely the whole subject was lost by a tie vote, and on the yeas and nays being called the resolution of 1860 was rescinded by a vote of 55 to 45.

With two exceptions (Drs. Atlee and Drysdale), the entire delegation from the Philadelphia County Medical Society voted *not* to rescind. The vote of the Lycoming County Medical Society was unanimous for rescinding.

A growing abuse in the State Medical Conventions is the introduction, under business heads, of strictly personal matters, generally grievances, and the right claimed to publish the same along with the legitimate proceedings of the Society. The voluminous pages read before the present convention by Dr. Halberstadt, relative to a professional feud, and the dreary and long-spun manuscript concerning the quarrel between the old Berks County Medical Society and the present Medical Society of the County of Berks, illustrate the truth of my statement. The present Yandall-Gaillard imbroglio is a melancholy evidence to what length such strictly personal matters may be carried, obtruding themselves not only into conventions, but occupying pages of medical magazines and secular journals, to the exclusion of profitable matter and the unlimited disgust of the readers.

This letter would be incomplete without a passing reference to Williamsport and the Lycoming County Medical Society. The former is a beautiful, progressive, and thrifty little city, situated on one of the forks of the Susquehanna. The hospitalities of its people to the members of the convention commenced with the latter's coming, and ended only with their departure. Mayor Perkins and the Congressional representative of the district, Hon. W. H. Armstrong, each gave the convention a handsome reception; and Mr. Peter Herdic took the entire body, by a special train, to the Minnequa Springs, forty-one miles north of Williamsport, and there liberally entertained them.

Among the more prominent physicians of Williamsport, members of the Lycoming County Society, are Drs. Thomas Lyon, J. S. Crawford, the newly-elected President of the Society, Samuel Pollock, appointed to deliver the next annual address on surgery, Thomas H. Helsby, and Edward Lyon.

In the adjoining county of Northampton lies buried the chemist Priestley, the discoverer of oxygen; and his lineal descendant, Dr. Joseph Priestley, now practises in the same county.

The next session of the Society will be held in the oil region,—Franklin, Venango County.

Let us hope that no oil will there be needed to "pour on troubled waters."

R. M. T.

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SATURDAY, JULY 1, 1871.

EDITORIAL.

THE LIBRARY OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

II.

WHEN the College moved in 1845 into its new hall at the Mercantile Library building, which was furnished almost exclusively by private subscription, the first step taken in regard to the library was the preparation of a complete catalogue by the Library Committee, assisted by Drs. Griscom, Jackson, Patterson, and Parrish. This was accomplished in January, 1846, and showed that the library contained about six hundred volumes. Quite a number of contributions of books were received from various Fellows, and Dr. Henry Bond, a valuable officer of the College, gave the first large donation of books the library had ever received, consisting of sixty-six volumes in different languages and on a variety of medical subjects. The gift of seventeen volumes by Dr. George B. Wood is memorable as the first of a series of munificent donations, mainly of a pecuniary nature, lavishly bestowed during a quarter of a century, for which the College of Physicians must ever entertain a grateful and affectionate remembrance of their honored President. The library also during this year became indebted to Dr. Isaac Hays for a gift of thirty or forty French and German works, and has since received frequent contributions of books, and especially of periodicals, from the same source.

Permission was now granted the Philadelphia Medical Society—at this time on the eve of suspension—to deposit its library in the hall of the College, and a case was procured for the reception of the books. This Society was but two years younger than the College, having been instituted in 1789, but it was not destined to have so extended an existence. In 1846, after nearly sixty years of varying activity, it went into a condition of hibernation, from which it was only temporarily aroused by the stimulation of outside causes in the year 1859, when, after a very brief resuscitation, it finally ceased to exist. The books thus deposited in 1846—a few hundred in number—remained upon the shelves for thirteen years without any further action, when, in June, 1859, the Society determined to convey them into the actual possession of the College, under certain conditions as to their use by such of its own members as were not Fellows of the College. These terms were not, however, acceptable to the proposed recipients of the donation, and the books were therefore delivered to the President of the Society, about the end of this year. As part of the further history of this transaction, it may be stated that in February, 1868, a communication was received from the same society, offering a donation of nearly four hundred and fifty dollars to the College library, the interest of which was to be applied to its increase, and the Society to be credited with the donation on the book-plate. This was the sum which had been realized by the Society by the sale of the books already referred to, and the College added to it a sufficient amount to make five hundred dollars for investment, so that the latter eventually obtained a small permanent fund for the purchase of a few books annually, after the lapse of nearly a quarter of a century from the time the offer of the books was first made.

During 1847 and 1848 the tables were filled with journals, the library was open for their perusal from 11 to 2 o'clock, and the Fellows were allowed dead-latch keys to the room; but the books could be seen or obtained only at the stated meetings. To remedy this inconvenience, the keys of the cases were left in the table-drawer, with the explicit understanding that no book was to be taken from the room, a printed placard to this effect being displayed on the bookcases. The exchanges at this time embraced all the medical journals of the country,—eighteen or twenty in number; but so many of the copies either failed to be received, or were taken home by the Fellows to be read at leisure and then laid aside and forgotten, that this plan of free access without, as at the present day, a responsible superintending officer, failed to work satisfactorily. In June, 1849, the College, on the motion of Dr. Parrish, took the first action looking to the establishment of a museum or cabinet of pathological specimens; but we need not here dwell upon the subsequent proceedings in regard to this important point, as the establishment of the museum, the gift of pathological specimens and money from Dr. Thomas D. Mütter, the creation of a building fund, and the erection of the present edifice, —all of which subjects became afterwards intimately blended,—are only incidentally connected with our history of the library.

Nothing of interest now occurred until 1852, when, by direct appeals to the members, a sufficient number of journals and pamphlets had been obtained, mainly contributed to the library from individual searches among private collections,—odd numbers, perhaps, stored away in garrets and obscure closets,—to lead to the binding of nearly a hundred volumes, hitherto incomplete; and additional bookcases now became as much of a necessity as was a new hall for the general meetings of the College. As the accommodations were so limited that it was apparent there would be no room for the cases when they were constructed, the question of a change of location again promised to be the topic of the hour. The expansion of the library may therefore be said to have been the principal cause of the new arrangements which were soon afterwards

made for the increased comfort and convenience of the College. The Secretary probably acted for many years in lieu of a librarian, for we find him, by an alteration of the by-laws in 1854, relieved from this duty by the appointment of a librarian as a regular officer of the College, annually elected. The committee had ceased to take charge of the giving out of books in 1852,—as they say, "since the appointment of a librarian;" but no one is mentioned on the minutes in connection with this position until 1855, so that it is presumable that, for two or three years, but slight facilities were afforded the Fellows in the use of the books.

The library, which was now getting rapidly larger by donations prompted by the increased interest felt in it by the Fellows, was removed in the summer of 1854 to the "Picture-House" of the Pennsylvania Hospital, in Spruce Street,—so called on account of West's celebrated painting, "Christ Healing the Sick," being placed there,—the College having adopted that as its place of future meeting. A revised catalogue was at once proposed, but not at once prepared. A lively interest in the College seems to have been reawakened at this time, for the meeting of October of this year was, almost without exception, larger than any ever held previously or even up to the present time, fifty-two of the Fellows being present, although there was nothing unusual to attract them. The first librarian, under the modified by-laws, which provided not only for the election of that officer but also of the Library Committee in January, was Dr. T. Hewson Bache, who for eight years continued to exercise the duties of the position with a zeal and fidelity creditable to himself and beneficial to the interests of the College. Hardly a full set of any medical journal—not even of its own Transactions—was at this time in the possession of the College. Every practicable effort was at once made to remedy such deficiency. So incomplete were some of the sets, however, that it was not deemed worth while to attempt to make them more perfect. At the February and April meetings of 1855, Dr. Alfred Stillé presented seventy-three volumes and forty-three numbers of valuable medical works, and Dr. Samuel Lewis, whose name a few years afterwards became permanently identified with the history of the library, gave fifty volumes, Dr. Moreton Stillé fifty-one, and others a large aggregate of equally useful works. So many numbers of medical journals were presented that a hundred additional volumes of periodicals were placed on the shelves, which otherwise would have been comparatively valueless. During a period of six months, two hundred and fifty-two books were also contributed by the Fellows, and one hundred and sixty-five other works were bound; and the library now amounted, after nearly seventy years of varying effort, to what, doubtless, seemed a magnificent total of seventeen hundred volumes,—only one-ninth of the number which at present constitute it, although but sixteen years have since elapsed. During this last period, the library has doubled itself more than three times. The library and new manuscript catalogue were ready for use in July. Upon the death of Dr. Moreton Stillé, in the fall of 1855, his widow presented to the College, through her brother-in-law, Dr. Alfred Stillé, a portion of his medical library, which had been collected by him "to foster his taste for literary and scientific culture," and was now given to those who were devoted to the same studies and pursuits. This donation comprised one hundred and nineteen separate works, in one hundred and thirty-seven volumes.

The total number of volumes in the College library reported January, 1857, was 2155,—"a very large number," says the annual report, "in comparison with its meagre contents, as some of the Fellows present will recollect them, when the library occupied a small and obscure corner of the stair-landing at the old Philosophical Hall on Fifth Street."

In October, 1857, Dr. Thomas F. Betton, who had during the previous year expressed a desire to give a large and valuable donation of books from his private library, communicated to the College his intention to convey into its possession his own medical library, and that of his father (Dr. Samuel B. Betton), amounting altogether to twenty-five hundred volumes, giving at once the periodicals and many curious old books, in order, as was very sensibly expressed in his note, "that they may be made of use, and not be kept slumbering on my shelves, to the advantage of no one." During the next six months, many hundred volumes were added from this source alone, and in 1864 a very large additional number. Dr. Betton's gift included some very rare and important works, and is worthy of record as the first massive contribution the College had received. It proved to be the library of a connoisseur, whose good taste in selecting the valuable materials which composed it was equalled only by his liberality in bestowing it where it would always be appreciated. The general library of the College thus received a stimulus the influence of which is felt even at the present time.

During 1858, Dr. Robert M. Huston contributed several hundred foreign and domestic journals. The library was reported on the 1st of January, 1859, as containing three thousand five hundred and sixty volumes, divided, in the catalogue, into folios, quartos, etc.,—an arrangement which has since been abandoned as useless and inconvenient. The Betton collection at this time included five hundred and seventy-two works, or about twelve hundred and sixty-five volumes. In May, 1859, it was determined to purchase the property at the northeast corner of Thirteenth and Locust Streets for the future permanent location of the College. A letter was received at this meeting from Mrs. M. A. Mütter, the widow of Dr. Thomas D. Mütter, who died during the preceding April, stating that it had been her husband's intention to give his medical library to the College, and expressing a desire to deposit it, to become a gift when the terms of agreement as to a new building for the museum should be fulfilled. The library was now kept open every Friday evening, from 7 to 10 o'clock, for a period of six months, under the charge of Dr. David Lewis, Librarian of the Pennsyl-

vania Hospital. In June it received a valuable accession of select works,—a legacy from the former Secretary of the College, Dr. Henry Bond. At the expiration of the year, it was found that three hundred and ninety-seven volumes had been added to the College library, besides medical journals and pamphlets, and that the total number of books reached very nearly four thousand volumes, exclusive of four hundred and one works deposited by Mrs. Mütter.

Very little increase was visible in the library during the years 1860 and 1861. A committee of five—Drs. T. H. Bache, Ruschenberger, West, Lewis, and R. P. Thomas, to which Dr. Betton (who afterwards declined) and Dr. W. F. Atlee were added—was appointed in April, 1860, to prepare a catalogue of the books. This must have been a task of great magnitude, for it was not reported as complete until December of the following year. The committee was aided also by Dr. Stillé; but it is due to the then librarian (Dr. Bache) to state that "a large share of the labor of preparing the catalogue devolved upon him." Strange to say, this valuable compilation, the great desideratum of the time in which it was prepared, not long afterwards was mislaid or destroyed in some inexplicable way, greatly to the chagrin and disappointment of those especially who had zealously labored in its preparation. A very valuable gift to the library during 1862 was effected by private subscription of twenty-three Fellows of the College, being no less a present than one hundred and ninety-two volumes of the "Collection des Thèses soutenues à la Faculté de Médecine de Paris," from 1822 to 1846 inclusive. This is, without exception, the finest set—probably the only one—of these inaugural dissertations to be found in this country. In July, 1863, the College was informed that Dr. Isaac Remington had, during his last sickness, expressed a desire to leave it his medical library, consisting of ninety works, including one hundred and ninety-five volumes, and ten periodicals in one hundred and eighty-eight numbers, besides pamphlets; and the Library Committee was authorized to take action in regard to their reception.

In consequence of the absence of Dr. Bache on patriotic medico-military duties during the war of the rebellion, Dr. Walter F. Atlee was, in January, 1863, elected Librarian. The new building at Thirteenth and Locust Streets was in March declared ready for occupancy; the Building Committee soon after reported plans for cases, and ere long the library of the College, which having safely undergone the traditional three times of removal might now be considered fire-proof, was securely ensconced in its new and commodious quarters. It probably at this time numbered scarcely more than four thousand five hundred volumes. Dr. Charles S. Boker was, in January, 1864, elected Librarian, to be succeeded in 1865 by Dr. John H. Slack, who retained that position until the appointment of the present worthy and excellent incumbent, Dr. Robert Bridges, in 1868.

The recent civil war, during its earlier years, was evidently a disturbing element, even in the quiet operations of the library, for there seems to have been at this time a lull in the activity of the committee, probably because the attention of the Fellows was so seriously diverted by more stirring causes as to prevent them from contributing to any extent to swell the contents of the book-shelves.

The years 1864 and 1865 are memorable in the history of the College library for the remarkable addition to it of about forty-five hundred volumes, twenty-five hundred of which were given *en masse* by Dr. Samuel Lewis, of this city, whose interest in the library must have ripened into the warmth of affection to prompt the unselfish bestowal of such invaluable medical literary treasures. They were presented unconditionally to the College in a modest note of but three or four lines, with the earnest wish that they might tend in some degree to advance its interests and usefulness. The College officially returned him a vote of thanks for his munificent gift, and resolved that the books should be preserved as a separate collection, under the name of the "Lewis Library." In November, 1865, he was again thanked "for his renewed manifestation of interest in the welfare of the College,"—a deserved tribute to his liberality and zeal, which might stand permanently recorded in lasting appreciation of his almost daily contributions, the portion of the library bearing his name having been in less than seven years augmented by his own efforts to a sum total of over four thousand volumes. Rich as the College library may hereafter become from bequests from any source, it is doubtful whether any other collection, unless specially selected with a view to its future presentation, will ever be so carefully and tenderly nurtured as that which now perceptibly grows in importance and usefulness under the eyes of its generous donor.

During the next year (1865), Mr. George Ord, a gentleman of philological culture, who for many years had been a prominent member of the various scientific and literary bodies here and elsewhere, offered so tempting a collection of valuable scientific and miscellaneous works for the acceptance of the College, provided it was deemed advisable to go outside of the range of medicine, that the committee appointed for the purpose wisely determined not to lose this unusual opportunity of enriching the resources of the library. The College thus became possessed, in the spring of 1866, of a very choice collection, "comprising the best editions of the most eminent classical writers in the English and French languages, many volumes of interesting voyages and travels, and the best and largest collection of English and French dictionaries perhaps in this country, being the fruits of Mr. Ord's industrious collecting during more than half a century." The acquisition of these valuable works was doubtless intended to be without cost to the College; but, being a bequest, instead of an actual gift during his life, though promised before his death, the latter had to pay the collateral inheritance and United States taxes, etc., amounting to $350,—an unexpected expense, but a

trifling one, when we consider that the library was appraised at a valuation of four thousand dollars. The sprinkling of miscellaneous books thus infused into the library may serve as a gentle reminder to those of the Fellows who are deeply absorbed in mere professional practice and routine journal and text-book literature, that the means of increasing their store of general information, and of becoming cosmopolitan in learning, are close at hand.

When the Library Committee made its annual report in January, 1866, there were said to be seventeen thousand titles of books in possession of the College, and it was regarded "as the best collection of medical works belonging to any similar institution in the United States." The new librarian, Dr. Slack, was credited with having contributed a large share of useful labor in connection with the care and arrangement of the library. The actual number of volumes had now risen to nine thousand five hundred and thirteen, and this amount was swollen by the receipt of the Ord library, in April, and by other donations, to a total of twelve thousand four hundred and forty-eight volumes before the close of the year. The library had now become so reliable and voluminous for reference that Dr. Wood, the President of the College, expressed in a communication to that body his earnest belief that more time should be allotted for access to the books and journals to enable practitioners who might wish hastily to decide some subject of direct interest or concern to themselves, or to while away an hour or two of leisure, or to investigate difficult or obscure points requiring extended reference to a number of authorities, to avail themselves of its advantages. To meet any additional expense that might be incidentally incurred, he generously offered to give the College five hundred dollars a year. This liberal offer was gladly accepted; the by-laws were altered to make the Librarian an ex-officio member of the Library Committee, which was increased to five; the Librarian was instructed to keep a record of the books, and report at each stated meeting; the library was to be open from 11 to 3 o'clock daily, and one of the committee was to attend regularly between those hours, for which duty he was to receive five hundred dollars a year. Dr. Robert Bridges was in June elected for this latter purpose, and by his careful attention to the requirements of the library from that time to the present, and his courteous, zealous, and efficient services,—which with each year's growth and use of the library must become more and more onerous,—has earned the grateful regard of all the Fellows of the College. In the following January he was also elected Librarian. Under his careful hand a voluminous alphabetical catalogue of the library according to authors has for some time been in preparation, and is now so far advanced that an important portion of it is ready for reference. To this will be appended a list of authors according to subjects, on the plan of the Edinburgh Library catalogue.

During the next four years the library grew very rapidly, as may be seen from the following table, founded on the annual reports of the Library Committee, presented each January:

	1868.	1869.	1870.	1871.
Lewis Library,	3098	3204	3449	3893
Ord "	2068	2068	1909*	1909
East and west rooms,	7216	8434	8744	9108
Total,	12,382	13,706	14,102	14,910

Besides these, there is a large number of duplicates, varying each year from sales or additions, amounting in 1868 to five hundred and ninety-one, and in 1871 to eight hundred and thirty-two volumes. The actual number of volumes at present in the library considerably exceeds fifteen thousand.

The use of the library by the Fellows has also steadily increased,—nearly six hundred volumes having been loaned during 1870,—although it hardly seems even yet that they have arrived at a full realization of the extent of the literary resources within their reach. As they become more conscious of the magnitude of its dimensions, of its richness for reference, and of its practical usefulness as a working library, their interest in it must be constantly augmented, and the halls of the College will doubtless in time be resorted to by a largely-increased number of the Fellows, awakened to a knowledge of the real value of the periodical and general literature so freely offered them. In the report for 1869, the committee, after congratulating the College on possessing, it is believed, the largest medical library in the United States,—the next in extent probably being that of the Pennsylvania Hospital,—remark, that "when it is remembered within how short a period this collection has reached its present size and acquired its great value, the hope is not an extravagant one that in a few years all of the available space in the College building will be required to contain the gifts of its benefactors." In February of this year, Bujalsky, a Russian surgeon, sent to the College from St. Petersburg a number of valuable books, including an illustrated folio work on lithotomy, etc., in the Russian language, the plates of which are twenty-three inches in length by thirty in width.

In January, 1869, the medical library of Dr. Francis West, who had for several years been a useful member of the Library Committee, was received as a bequest. It consisted of one hundred and twenty-four volumes and two hundred and twenty duplicates. In February, 1870, ninety-nine volumes on midwifery were received from the executor of the estate of Dr. Charles D. Meigs, in accordance with the terms of his will. The latest step taken by the College to extend the usefulness of the library was a resolution passed in April, 1871, to keep it open in the evening, from October 1 to May 31, twice a week, from 7 to 10 P.M., to enable the Fellows to consult the books and journals, with an assistant librarian to be appointed to attend to this additional duty. In

* A portion of this library, embracing kindred subjects on natural history, etc., was incorporated with the general library, the book-plate, of course, crediting them to the Ord bequest. This will account for the apparent diminution of the number of volumes.

this manner a more social feeling will doubtless be diffused among the members of the College, which will inevitably have an important and beneficial effect in creating a wide-spread interest in the library and in the institution which is its fortunate possessor.

A number of the Fellows have, within the past two or three months, organized a "Journal Association of the College of Physicians," for the purpose of creating, by private subscription alone, a fund for the purchase of foreign and domestic current medical literature, which, after being left on a special table in the room of the College for a sufficient length of time, is to be given, in complete volumes, to the library. The main object is to supplement in this way the list of journals already regularly taken by the College, by adding others which it is desirable it should possess. This new plan of increased supply is meeting with great favor and success, and is likely to be a permanently attractive feature. The idea is not an entirely new one, having been agitated in January, 1856, but not practically carried out. Medical pamphlets of all kinds, as well as the Transactions of medical societies here and elsewhere, are also received, and will be welcomed as acceptable contributions from professional gentlemen in any portion of this country, either to this Association or to the College, which latter will transmit its own Transactions in exchange.

The following gentlemen have constituted the Library Committee from 1845—the date of removal to the Mercantile Library building—to the present time. 1. At the Mercantile Library, Drs. West, Pepper, and Reese. 2. At the Pennsylvania Hospital building, Drs. West, Reese, Lewis, Lajus, Betton, W. F. Atlee, and Stillé. 3. At the College building, Thirteenth and Locust, Drs. Lewis, Stillé, Atlee, Bridges, and J. Ashhurst, Jr. Their services have been attended with the best results to the interests of the College. They have, during some of these years, accomplished a good deal, with little or no annual appropriation of funds; and although a more just and generous amount is now granted them for current expenses, the great increase of the library has been effected almost entirely without expense to the College, so numerous have been the donations of books. It is impossible, and would indeed be inexpedient, to mention in detail the names of all the benefactors of the library, some of whom have given largely from their own literary resources in one or two instalments, and others but a little at a time, and yet frequently. Without making invidious mention, it may be truly stated that, while the College feels grateful to all the contributors to the library, it must feel especially so for numerous and valuable gifts of books and periodicals by Drs. Alfred Stillé, John Bell, S. Weir Mitchell, Francis W. Lewis, Walter F. Atlee, Samuel D. Gross, George W. Norris, Edward Hartshorne, Joseph Carson, Charles D. Meigs, Charles W. Pennock, Robert P. Harris, and William Ashmead, in addition to those already mentioned. They have all been actuated by the same spirit, as contributors to the general good of the profession. As gratitude has been ironically defined as "thankfulness for favors to come," the College may truly congratulate itself on the future of its library, which will undoubtedly receive hereafter, from some of its warmest friends of to-day, large accessions of valuable, curious, and standard works. Let us hope, however, that the day is far distant which shall produce the enrichment of the library as the result of the loss to the College, the profession, and the world, of the valuable services of any one of them!

Of the character of the books now constituting the library, much might be said, had we the space to describe them at length. Suffice it to say that the College library proper is rich in the general walks of medical literature, and especially in American, French, and German journals, and that it contains numerous classical treatises and curious old works, such as would delight the student and the antiquary. One of these very rare old books is an American work, "printed and sold by B. Franklin, 1745," entitled "An Essay on the West India Dry Gripes," by Dr. Thomas Cadwalader. Curiously enough, it contains two prefaces, each dated "New Jersey, Trenton, March 25, 1745," one of them being pasted on a fly-leaf, from which fact it is inferred that it was probably the author's private copy, and that, being dissatisfied with one preface, he substituted another, and kept them both for his own reference. The Lewis library is very valuable for its completeness in old English journals, curious old books,—some of them dating as far back as the sixteenth century, including among other works a fine collection of the School of Salernum,—all the best medical works of the day in their original editions,—not a reprint being found in the whole library,—and seven or eight hundred articles on fever. The philological character of the excellent Ord library has already been referred to.

The main rooms of the library are embellished, in some of the available spaces, by the portraits of deceased officers and Fellows of the College. Included among these are paintings of several of the former Presidents, —Drs. John Redman (1787–1805), William Shippen (1805–1809), Thomas Parke (1818–1835), and Thomas C. James (1835). These were all given by Dr. George B. Wood in 1865 and 1866, that of Dr. Redman being copied from a small water-color portrait presented in 1865 by the heirs of Dr. John Redman Coxe, which also occupies a small corner in the library. Dr. John Neill in 1867 contributed a portrait in oil of his father, Dr. Henry Neill, and smaller likenesses of Drs. Benjamin Duffield and John Church. A portrait of Dr. Abraham Chovet, anecdotes of whom are connected with Philadelphia local history of the latter part of the last century, was presented the same year by Mrs. L. C. Hay, of Trenton, N.J. An oil-painting of Dr. John Foulke, one of the founders of the College, was presented by Mrs. W. Parker Foulke; a small print of Dr. S. P. Griffitts, one of the early founders, by Dr. Carson; one of Dr. John Syng Dorsey, by Mr. Charles Hart; an artistic oil-painting of Hippocrates,* exe-

* This painting was based upon the bust of Hippocrates in the possession of the Pennsylvania Academy of the Fine Arts,—itself copied from a historic medal.

cuted by herself, by Miss Fanny Darrach; and an excellent photograph of Dr. Robley Dunglison, by Dr. Richard J. Dunglison. There is also in the museum a fine portrait of Dr. Thomas Dent Mütter, by Huntingdon. As far back as the year 1850, the Library Committee were requested "to have copies of such engraved likenesses of deceased Fellows as have been published, for the purpose of having them also framed and suspended in the chamber;" but no action has ever been taken in regard to it. It is to be hoped that in time busts of the most honored Fellows of the College may also adorn the now empty spaces over the projecting bookcases. An album is kept in the library for the reception of the photographs of all those connected with the College who feel disposed to contribute to it. The library is usually closed in the summer for a period of about six weeks. Members of the profession who are not Fellows of the College are allowed free access to the library at the regular hours, on introducing themselves to the Librarian.

DR. CHISOLM'S CASE OF ANTERIOR LUXATION OF THE SEMILUNAR BONE.

WE made, as we thought, an unimportant alteration in the wording of the heading of the article contributed by Dr. Chisolm to the last number of the *Times*, and added the words *Excision—Recovery*. Dr. Chisolm, however, writes us that he regrets the change, and that

"The report of the case was made on account of the rarity of the accident, and the excision was only mentioned to substantiate the diagnosis and to explain the impossibility of reduction. As the report was sent to you only three days after the operation of excision had been performed, time had not been allowed to ascertain results; and hence all reference to the latter was purposely avoided.

"Seven weeks have now elapsed since the operation of removing the semilunar bone. Suppurative inflammation of the wrist-joint has been severe, and it may yet become necessary to amputate the limb."

TRANSACTIONS OF SOCIETIES.

REPORT OF THE PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

AT a stated meeting of the Pathological Society, held May 23, 1871, the President, John Ashhurst, Jr., M.D., in the chair,

DR. HARRISON ALLEN presented a specimen of *epithelioma of the penis*, from J. P., æt. 55. Of temperate habits, he enjoyed good health until last December, when he noticed warty growths upon the prepuce, accompanied with some pain. He was admitted to Philadelphia Hospital, April 12, 1871. The growth at that time presented undoubted characters of epithelioma. Both prepuce and glans penis were involved. The surface was lobulated and knobbed; in places ulcerated, and exhaling an unpleasant odor. There was no enlargement of the inguinal glands.

On May 3, the left groin being carefully examined, an enlarged and indurated gland was found. The growth at this time measured 6½ inches in circumference and 2⅓ inches in its greatest diameter. It was removed by the *écraseur* May 20. Twenty-five minutes were occupied in the operation. No hemorrhage followed. The gum catheter was not here introduced previously to the operation. The patient has done well since in every way.

The PRESIDENT said that there was sometimes difficulty in cutting through the catheter with the *écraseur*, and recalled a case which occurred in this city some years ago, in which, an attempt having been made to amputate the penis with the instrument in question, it was found necessary to remove the catheter before the operation could be completed. In the ordinary operation with the knife, there is no risk of contraction, provided that the spongy body is cut a little longer than the cavernous bodies, when the urethra can be split, and the mucous membrane turned out and fastened with sutures to the skin of the penis, so as to form a new meatus.

DR. W. W. KEEN asked Dr. Allen what were his views with regard to the propriety, in general, of removing such affected inguinal glands. He thought the circumstances parallel to those which called for the excision of axillary glands in mammary cancer, a proceeding frequently adopted in the latter case, but only rarely in the former.

DR. ALLEN replied that he should think well of such removal where the involved gland was of slow growth, but that where the growth of the gland was as rapid as in this instance, he should think it inexpedient to operate. He considered it likely that in this case the deep pelvic glands were also involved.

The specimen was referred to the Committee on Morbid Growths, who reported, June 8, that it was "a well-marked case of epithelioma, presenting its usual microscopical characters."

DR. W. F. JENKS presented a specimen of *congenital sacral neuroma amyelinicum, followed by hydrocephalus and death*, with the following history:—

The mother states that during gestation she suffered from a constant dragging pain in the right side. The labor, however, was normal, unattended with unusual hemorrhage, and the placenta, which was examined by the physician in attendance, was pronounced to be healthy. At birth, the head of the child was of moderate size, the body well formed, except that an unnatural opening existed over the sacral region, extending two and a half inches downward from the last lumbar vertebra, and being about two inches wide at the broadest part. From this irregularly oval cavity there exuded for some days after birth, after a large, firm coagulum, which completely filled it, had been removed, a thin serous fluid. Cicatrization gradually took place, and when the child first came under observation at the clinic of the University, the sacral region presented the following appearances: The cutis covering the place which had been open at birth was of a livid bluish hue, exceedingly delicate,—so thin, in fact, that rupture seemed imminent, bulging out in places in the form of small bullæ. Around this central portion the skin was indurated, of a deep scarlet color, and stretched tightly over the subjacent parts. The spinous processes of the rudimentary vertebræ could be felt widely separated on each side, while the space between them gradually diminished until the fourth lumbar vertebra was only partially cleft. After the complete closure of the sacral opening, which took place about the fourth week of life, hydrocephalus gradually developed, and the head of the child now presents all the characteristic deformities of this condition. The left side was, however, much more prominent than the right, this semicircumference being in fact nearly an inch larger than the other by actual measurement. No systolic blowing-murmur is heard over the tense and prominent anterior fontanelle. Convulsive movements of the lower extremities occurred when the hydrocephalus first commenced to develop rapidly, but of late have been wanting. There is partial paralysis of motion and sensation in the lower extremities. The intelligence of the child is good. The mother states that during the first week after birth it frequently voided bloody stools, and that later it suffered continually from intestinal derangement. It gradually sank, and died two weeks after it first came under treatment.

A post-mortem examination was obtained with difficulty, and, owing to continual interruption by the friends, was necessarily incomplete. Of the *brain*, the left ventricle was distended by about a quart of clear, transparent yellow serum,

less than half an inch in thickness, and only a thin shell of brain-tissue remained. The right ventricle contained but a small amount of fluid.

The tissues over the sacrum were removed for a more careful examination. The membranes of the cord are thickened. The central spinal canal is distended to the diameter of a tube the size of a crow-quill, on the sides of which the nerves can be seen flattened out, and spiral in their course. At the extremity of the spinal cord, and corresponding to a slight umbilication of the integuments, there is a tumor the size and shape of a peach-kernel, which, when first examined, was of a pale-grayish color. The elements were so closely matted together as almost to give the impression of a homogeneous mass. Since maceration in dilute chromic acid, it has a more spongy appearance, and can be readily picked apart for microscopical examination. This growth is enclosed in the thickened dura mater spinalis, from which, however, it can be easily separated. With a low power (No. 4 Hartnack) it seems to consist of countless fibres interlacing with and crossing one another in all directions, and can scarcely be distinguished from an ordinary fibrous tumor. When examined with a No. 10 immersion lens, it can be resolved into delicate fibrillæ, having only a single contour, in which numerous small oval nuclei are visible. These fibrillæ are stained with carmine, and can be traced here and there to bipolar or multipolar ganglionic cells. In one instance one was followed into a nerve provided with a medullary sheath; in other words, its identity with the axis-cylinder of the nerve was proved. The tumor is mostly composed of these primary nerve-fibrillæ without any medullary sheath. Here and there portions of myelinic nerves can be seen, the nuclei, which are normally present in small numbers in the membrane of Schwann, being in a state of proliferation. The tumor therefore belongs to that variety of neuromata where the nerve-fibres concerned are those of the so-called amyelin nerves, and has been described by Virchow under the name of neuroma amyelinicum (*Die Krank. Geschwülste*, vol. iii. p. 282).

Dr. R. M. Bertolet said great difficulties are usually experienced in distinguishing, even with the use of high microscopical lenses, the amyelinic neuromatous structure from that of the finely-fibrillated fibroma so frequently met with in neoplasms of the nerves. Staining the tissues with a solution of chloride of gold is suggested as being likely to facilitate the establishment of a differential diagnosis. This method of coloring can also be pursued with advantage in specimens that have been kept for some time, since, according to Gerlach's method of combining the terchloride of gold with potassium, it is no longer absolutely essential that the nerve-structure be fresh. In fresh material, osmic acid might also be found of service, by rendering the axis-cylinder more conspicuous.

Dr. R. M. Bertolet presented a *bronchocele* which was obtained from the body of a man about fifty years old. Although it is not of that colossal size so often attained by these tumors, and although no symptoms of compression manifested themselves during life, yet the specimen is interesting from the fact that it presents us with numerous secondary pathological changes, which may all be readily shown to originate in true and simple hypertrophy of the glandular structure,—the *struma hyperplastica* of the pathologists.

The left lobe of the thyroid gland is unaltered, excepting at its lower and outer border, upon which are seen numerous bead-like follicular enlargements. The stroma, or interfollicular connective tissue, has here undergone little or no change. Some of these enlarged follicles are firm, and, to the naked eye, do not present any marked alterations from the surrounding healthy structures; others, again, are filled with an amber-colored, soft, gelatinous or colloid mass.

In the right lobe, similar but more extensive changes have taken place, and, by the confluence of the distended follicles, two large *cysts* have been formed. They were filled with a dark-red fluid, containing epithelial cells, blood-corpuscles, fat-globules, and crystals of cholesterine. The walls of the cysts are thickened, and have become ossified in the smaller cyst lying in the centre of the lobe. The microscopic examination revealed the presence of true osseous structure.

Dr. James Tyson described a case of *cancer of the head of the pancreas*, involving also the *pyloric end of the stomach*, producing partial obstruction. Although he was not able to exhibit the specimen, which he was not allowed to remove, he thought the case worthy of a record in the Proceedings of the Society, since one of the most valuable reports extant upon this subject was made to this Society by one of its members.*

R. J., aged 63, a laborer, complained at intervals during the past ten years of violent abdominal pain, which was generally relieved by hot applications. Since November, 1870, the pain has recurred more frequently, has been more severe, and obstinate constipation has presented itself in addition to the other symptoms. For four weeks also previously to his death, which occurred April 29, there was incessant vomiting, and during the few days before his death in which he was under observation, all ingesta were vomited at varying intervals after their introduction to the stomach.

When he came under observation he was much emaciated and very feeble, evidently approaching death. At the first examination there appeared distant dulness on percussion to the right of the epigastrium, and a tumor was apparently present in this situation. But subsequently, although the belly was scaphoid, no dulness could be discerned, and the tumor had changed position; later it was noted in the lower part of the abdomen, and disappeared after an evacuation of scybalous matter had been obtained by copious injection, showing that what had at first been taken for the tumor was merely hardened fecal matter in the colon.

At the post-mortem examination the head of the pancreas was found to be the seat of a hard cancer, which had apparently extended by continuity to the pyloric end of the stomach. The pyloric orifice was contracted but patulous,—so much so that it was surprising that there should have been such entire rejection of ingesta.

Dr. John H. Packard related a case of apparent *tuberculosis* in a child 4 months and 21 days old. When born, the infant was remarkably large and strong, and seemed healthy; but five weeks later, after taking cold, symptoms of bronchitis set in, the child gradually became emaciated, and died with evident symptoms of deficiency in the amount of breathing-space.

At the post-mortem examination, the lungs were found filled with a deposit exhibiting the gross characters of tubercular matter. There was no evidence of pleurisy. Only the chest was examined, no symptoms having been present pointing to involvement of any other organs.

Dr. P. desired to know the experience of other members of the Society as to similar cases.

Dr. John S. Parry said that the striking peculiarity in the case detailed by Dr. Packard was the age of the child; but he thought that tubercular disease and cheesy pneumonia were not very rare in children of this age. Generally the disease is rapid in its course, and the tuberculosis involves a large number of organs, but the mode in which the lungs are involved is not the same as in adults, because the seat of cavities is not the apices of the lungs, but the lower lobe or the lower portion of the upper lobe. A case between three and four months old had come under his care at the Philadelphia Hospital, in which capillary bronchitis had been diagnosticated on the evidence afforded by submucous râles; the diagnosis was corrected by the calor mordax which was present. The child soon died with tubercular disease of the membranes of the brain, lungs, liver, and spleen. The doctor had noted from two to four such cases in children under a year old at the Philadelphia Hospital, in a single term of six months.

Dr. Packard asked whether there were not in these cases alluded to by Dr. Parry other symptoms than diminution of breathing-space, such as diarrhœa, or evidences of impaired nutrition.

Dr. Parry replied that there were not necessarily such additional symptoms, though the disease might supervene in the course of a diarrhœa in the summer months. In this particular instance the child was really fat, and one of the strongest children in the wards. The symptoms were entirely pulmonary until the tubercular meningitis supervened.

* Da Costa, Cancer of the Pancreas. Proceedings of the Pathological Society of Philadelphia, vol. i. p. 103.

BOOKS AND PAMPHLETS RECEIVED.

Principles and Practice of Dentistry, including Anatomy, Physiology, Pathology, Therapeutics, Dental Surgery, and Mechanism. By Chapin A. Harris, D.D.S., etc. Tenth Edition, Revised and Edited by Philip H. Austen, M.D. With 409 Illustrations. 8vo, pp. 794. Philadelphia, Lindsay & Blakiston, 1871.

Wear and Tear, or Hints for the Overworked. By S. Weir Mitchell, M.D., Member of the National Academy of Sciences, etc. 12mo, pp. 59. Philadelphia, J. B. Lippincott & Co., 1871.

A Treatise on Diseases of the Nervous System. By William A. Hammond, M.D., Professor of Diseases of the Mind and Nervous System and of Clinical Medicine in the Bellevue Hospital Medical College, etc. 8vo, pp. xxv., 754. New York, D. Appleton & Co., 1871. For sale by Claxton, Remsen & Haffelfinger.

On the Physiological Effects of Severe and Protracted Muscular Exercise, with Special Reference to its Influence upon the Excretion of Nitrogen. Reprinted from the New York Medical Journal, June, 1871. By Austin Flint, Jr., M.D., Professor of Physiology in Bellevue Hospital Medical College, etc. 8vo, pp. 91. New York, D. Appleton & Co., 1871. For sale by Claxton, Remsen & Haffelfinger.

Report of Eastern Lunatic Asylum of Virginia. Pamphlet, pp. 46. Norfolk, 1870.

Infant Mortality and the Necessity of a Foundling Hospital in Philadelphia. Lecture before the Social Science Association of Philadelphia. By John S. Parry, M.D., etc. Pp. 28.

The Detection of Criminal Abortion. By Ely Van De Warker, M.D. Pamphlet, pp. 16.

GLEANINGS FROM OUR EXCHANGES.

Trophic Nerves.—Prof. Wm. Rutherford, in his Lecture on Experimental Physiology, published in *The London Lancet* for April 29, 1871, contends for the existence of *trophic or nutrient nerves*, independently of the nerves which regulate the blood-supply. He adduces in favor of their existence—1. The fact, admitted by Prof. Hermann in his Text-Book of Physiology as unequivocal, that when a nerve is cut off from its centre it degenerates,—*i.e.*, if the posterior root of a spinal nerve be divided on the distal side of the intervertebral ganglion, the portion cut off from the ganglion degenerates; that (central) in connection with it preserves its integrity. If, again, it be cut between the cord and the ganglion, the portion (central) cut off from the ganglion degenerates, while that (peripheral) still joined to the ganglion remains intact. The results appear to show that the intervertebral ganglia are trophic centres for the afferent nerves. Similar experiments seem to show that in the spinal cord are the trophic centres for efferent nerves. The effect of loss of function in producing atrophy is admitted, but the lecturer properly states that this fails to afford an explanation why the *peripheral* and not the central end of the posterior sensory root degenerates, when a cut is made on the peripheral side of the intervertebral ganglion. But he also desires to be understood as admitting that *pure inaction of tissue, as well as suspension of trophic influence, produces degeneration of a nerve.* 2. Evidence is adduced in the fact which he acknowledges proven, that the chorda tympani and sympathetic, in presiding over the salivary secretion, cause increased growth of the cell elements. 3. Inflammation of the eye after section of the ophthalmic branch of the fifth pair, is thought to tend to the same end, notwithstanding the assertion of Snellen and Büttner that it is due to irritation of foreign matters admitted on account of loss of sensibility; since Meissner and Schiff have shown that the inflammation follows a partial section of the nerve, which leaves the sensory fibres intact. And, quite recently, Sinitzin has shown that inflammation does not follow if the blood-vessels of the eye be paralyzed by removal of the superior cervical ganglion. Prof. Rutherford believes that the difficulty of separating the vascular from the trophic disturbance in such cases is the cause of the obscurity which yet hangs over many of the facts regarding trophic nerves.

Removal of Stone-Fragments by Siphon-Suction.—Prof. Dittel, of Vienna, discovered, in the course of some experiments (*Practitioner*, for March, 1871, from *Wiener Medizinische Zeitung*), that the fragments of the stone left in the bladder after the operation of lithotrity could be removed by means of a siphon apparatus, made by attaching an india-rubber tube, the free end of which passes into a vessel on the floor. This simple instrument was used with great advantage in the case of a patient in Dr. Dittel's wards. Since then he has had occasion to use it repeatedly, to discover its faults and to improve it. The apparatus which he has found most useful consists of a catheter with a short curve like that of the scoop, and having a large eye well forward. The point as far as the eye must be filled up, that fragments may not get lodged there and cause injury to the urethra in extraction. To the handle of the catheter is attached an additional piece. This consists of a tube, six centimetres long, into the midst of which a tube, two centimetres in length, opens at right angles. The additional piece has, therefore, three limbs,—catheter limb, outflow limb, syringe limb. Where these three tube-limbs come together, there is a stomach-pump valve arrangement. In the first position of this the water can only be sent from the syringe to the bladder; in the second position, the water can only flow from the bladder into the outlet tube. In this way, without removing the tube from the lower vessel, we can make the extraction almost continuous as long as we think proper. There is no doubt that by such continuous extraction we spare the patient the irritation from the impaction of fragments in the urethra; and this is clearly, Prof. Dittel thinks, a not unimportant advantage of the apparatus. But a yet more important merit is that its use eliminates paralysis of the bladder from the list of the contra-indications of lithotrity.

This apparatus may also be used in the treatment of chronic catarrh of the bladder, because the mucus and pus lying on the floor of the bladder and acting as the ferments of the urine can in no other way be so completely removed.

The Action of Mercury in Children.—Dr. William Stephenson recently read a paper on the Action of Mercury (an abstract of a similar paper appeared in No. 17 of this journal) before the Medico-Chirurgical Society of Edinburgh, which is published in the *Edinburgh Medical Journal* for May, 1871. He thinks it is a very prevalent mistake to suppose that children are less susceptible to the constitutional action of mercury than adults. This mistake has arisen from the fact that young children are rarely, if ever, salivated by mercury, while all its other constitutional effects are ignored. A careful observation will show that in children the constitutional effects are more rapidly produced than in the adult. In syphilitic children, for instance, its action is sometimes exceedingly prompt. So, too, the depressing effects of mercury are sooner produced in the former than in the latter, and among these anæmia is especially prominent. In many cases he believes that mercury acts by a direct effect upon the cell elements of the tissues themselves, stimulating their action in the various transformations through which they normally pass. This action of the remedy may be carried too far, producing proliferation of cell elements and degeneration in the ultimate products. The state of the constitution is to be considered. Mercury should not be given whenever there is marked cachexia present. Dr. Stephenson has found that it manifests its good effects in the sluggish constitutions of the strumous and syphilitic diatheses much more than in the active cellular transformation of the tubercular class, in which also its irritative and depressing influence is much more readily produced. In the treatment of specific affections in children, it is to be recollected that the diathesis can never be eradicated, and that all we can do is to modify the diseased action dependent upon this. Mercury, he says, will cure the syphilitic diseases of the first year of life, but no extent of its use at that time will lessen the tendency in after-years to interstitial keratitis, or any later manifestation of the taint.

NEW BLOOD-CRYSTALS.—According to Dr. Preyer (*The Academy*, April 1, 1870, from *Chemisches Centralblatt*, No. 7, 1871), the addition of an equal volume of ether and a little glacial acetic acid to an aqueous solution of blood, from which the chlorine has been removed by argentic nitrate and subsequent filtration, or to an aqueous solution of pure hæmoglobine, causes the ethereal layer to turn dark brown and to exhibit four absorption bands, one between C and D (the acetic-acid band), which lies close to C, a very weak one near D, a strongly-marked broad one at E, and another strongly-marked broad one between B and F. A similar spectrum, first observed by Stokes, is also given by hæmatine that contains no iron. Preyer has found that the coloring-matter of the above solution can be crystallized, if the ethereal layer from the colorless hæmoglobine solution or the blood freed from chlorine be separated very slowly, evaporated, and finally dried over potash solution. The crystals are for the most part acicular, frequently contorted, sometimes in stellar aggregation, sometimes detached. The majority are finely pointed; many show jagged edges. They doubly refract light, surpass in size all other blood-crystals, are insoluble in ether, alcohol, or water, but readily dissolve in potash solution of aqueous acetic acid, and can be recrystallized from the last-named menstruum. They are not identical with hæmine or hæmatoidine, nor, apparently, with Lehmann's hæmatin crystals. They have received the name of *hæmatoine*.

CONTRACTILE GLAND-CELLS OF THE SKIN OF THE FROG.—The following are the results of the observations of Dr. T. Engelmann on this subject (*The Academy*, April 15, 1871, from Pflüger's *Archiv für Physiologie*, January, 1871). Contractile glands are very numerous, and are distributed over the whole surface of the skin of the frog. They are distinctly contractile under nervous excitation, and are composed of basement membrane with a lining of cells, which are arranged in two layers,—an external, flat, and probably contractile layer, and an internal layer of more cubical form. The two layers are not very readily separable from each other. Prof. E. found that momentary mechanic or electric excitation of the distal extremity of the divided nerve causes temporary contraction of the glands of the hind feet, which attained its maximum in from half a second to five seconds. If the shocks be repeated with sufficient frequency, the glands, or rather the gland-cells, appear to pass into a state of tetanus, and they then assume a cloudy appearance. Independently of direct excitation, the contraction of the gland-cells may be called into play reflectorially, as by irritation of the nerves of various parts of the body. The reflex irritation is conducted centripetally through the posterior, centrifugally through the anterior roots of the spinal cord. The activity of the motor nerves is not abolished by woorara.

MISCELLANY.

THE UNIVERSITY HOSPITAL.—The friends of the University of Pennsylvania have lately issued an appeal on behalf of the hospital which it is proposed to connect with the medical department of that institution, and have held a meeting for the purpose of forming an organization, the object of which is to promote the effort which is being made to collect such a sum of money as will insure not only its erection, but also its endowment. Dr. George B. Wood, already a most generous benefactor of the University, has signified his intention of contributing ten thousand dollars, and many other gentlemen, it is understood, intend to respond liberally to the appeal.

The corner-stone of the new buildings for the Department of Arts was laid, with appropriate ceremonies, at Thirty-fourth and Locust Streets, on Thursday, June 15, and it is the intention of the Trustees of the University that the buildings for the medical department and for the hospital shall be upon the same lot. The importance of thorough clinical instruction is fully recognized by both our medical schools, and no city in the United States presents greater advantages in this respect than Philadelphia.

A STEP IN THE RIGHT DIRECTION.—The Faculty of the Medical Department of Harvard University have adopted the rule that hereafter candidates for the doctorate must have attended lectures for three years. During each year only a partial course of study is to be required, and the student is to be examined at its close upon the lectures he has heard. Although the Harvard school may at first suffer a falling off in the number of its students, the ultimate effects of this change will be to increase its popularity as well as its influence.

A friend has sent us a copy of a correspondence between the Secretary of the Philadelphia Hospital Medical Society and the Dean of the Medical Faculty of Harvard, the former transmitting to the latter some congratulatory resolutions of the Society in reference to the change.

EDITORIAL CHANGE.—The June number of the *New York Medical Journal* contains the announcement of the retirement of Dr. Edward S. Dunster from the editorial charge of the journal. During the five years that Dr. Dunster has been its editor the journal has been managed with much ability. His successors are Drs. William T. Lusk and James B. Hunter, who "bring to their labors a ripe experience and qualifications of a rare order."

THE MEDICAL WORLD.—A monthly journal with the above title, under the editorial charge of Dr. Reuben A. Vance, is soon to be published by Messrs. William Baldwin & Co., at $1.50 per annum. It is to be made up partly of extracts from all the leading foreign and American periodicals, and partly of original communications. Messrs. Baldwin & Co. have recently become the publishers of *The New York Journal of Obstetrics and Diseases of Women and Children*.

GRAEFE'S SUCCESSOR.—Prof. Schweigger, a pupil of the late eminent ophthalmologist, has just been appointed to succeed Graefe at the Charité Hospital of Berlin. Dr. Schweigger has hitherto occupied a chair in Zurich.

MISS JEX BLAKE SUED.—It will be recollected that Miss Blake asserted recently, in a speech delivered before the Contributors to the Edinburgh Infirmary, that Mr. Edward Craig, Dr. Christison's assistant, was one of the ringleaders in the disturbance which took place last November upon the introduction of female students to the Surgeons' Hall, and that he was under the influence of liquor at the time. From the *Lancet* of June 3 we learn that Mr. Craig has sued Miss Blake for defamation of character, and that a verdict has been given in his favor. The damages assessed were one farthing,—from which we may infer that, while Miss Blake is convicted of having said what was not true, the jury thought that nothing she could say was likely to affect Mr. Craig's character unfavorably.

CLINICAL TEACHING AT BERLIN.—A writer in a recent number of the *British Medical Journal* thus describes Professor Frerich's method of conducting his *clinique*:

"It is conducted in one of the theatres of the Charité, three or four times a week, in the following way: A patient is rolled into the arena from the adjoining ward on a bed, and one of the students named *Practicanten*, who have put their names on a list for the purpose, is called down. The history of the case is read to him and to the class, and he makes a physical examination of the patient, assisted by the professor, and then forms his diagnosis. The professor then analyzes the case in

every direction, in a way peculiar to the German school, and which we have never heard equalled by any other teacher, except the lamented Oppolzer; and from this it is that the English student derives benefit: there he finds the most ordinary everyday cases looked at in other aspects than that in which he has been accustomed to regard them, and the diagnosis arrived at by processes of reasoning quite new to him.

"Prof. Traube's clinique is conducted more in accordance with our ideas, inasmuch as he goes round his wards with the class. He gives two courses,—one intended for the junior students, the other for senior students and foreigners. Traube's specialty is diseases of the chest, and he possesses the most acute powers of auscultation. His ears are habitually stuffed with wadding, in order, it is said, to preserve the membrana tympani in perfect order."

A New Treatment for Scurvy.—From the New York *Tribune* we take the following: "There is rarely anything new in the medical way,—or in any other way, for that matter. A paragraph relates how, 'out West,' wherever that may be, six men, to cure them of scurvy, were planted in the ground, when a pack of wild beasts ate the six heads off. But semi-burial for scurvy is a very old practice, and the earth-cure was discussed in England many years ago, and was funnily caricatured by *Punch*. The botanical practice is also ancient:—there is an amusing chapter on it in Southey's 'Doctor.' As for bleeding and quicksilver, they are as old as Paracelsus, and probably much older; and poor man will doubtless be depleted to death until time itself shall be no more."

Doctors and their Fees in the "Good Old Times" in Ireland.—The *Medical Times and Gazette* says, "The following curious mode of providing for the payment of the medical profession prevailed in Ireland under the Brehon laws prior to the thirteenth century. In an interesting address delivered to the Law Students' Debating Society of Ireland, December 6, 1869, by John B. Falconer, A.B., it is stated that—'A law in relation to doctors enacted that their fees should be proportioned to the rank of the patient and the nature of the complaint. It was also held that no fee should be paid unless a cure were effected. On the other hand, the fees seem to have been sufficiently large; and as the method of treatment must necessarily have been less scientific than at present, and the habits of life more simple, perhaps deaths did not occur so frequently (*sic*) from disease as at present. Fourteen *cumhals*, or forty-two cows, for example, were the fee for curing a bishop or local chief, while the health and bodily welfare of a member of the lowest rank of the tribe were valued at six cows.' This standard of value—viz., per cumhal, or three cows—was the origin of the expression, 'So much land as follows three cows,' and is explained by the then patriarchal state of society."

An Odd Definition.—The proprietor of a little ale-house in Scotland having on his sign-board, after his name, the letters "M. D. F. R. S.," a physician, who was a Fellow of the Royal Society, asked him how he presumed to affix these letters to his name. "Why, sir," said the inn-keeper, "I have as good a right to use them as you have." "What do you mean, you impudent fellow?" replied the physician. "I mean, sir, that I was Drum-Major of the Royal Scots Fusiliers."

Comprehensive Specialism.—Under this head the *Nashville Journal of Medicine and Surgery* reproduces the following advertisement:

"Marshall L. Brown, M.D., Physician and Surgeon, Winchendon, Mass. Office hours, 2 to 4 and 7 to 8½ P.M. Especial attention paid to all diseases flesh is heir to. Also, attention paid to diseases of horses."

An Alleged Insult to the Profession in Italy.—The *British Medical Journal* says, "According to the Italian medical journals, one of the provisions of a penal code which is about to be presented to the parliament of the country is that fines shall be inflicted on physicians and surgeons who refuse to render professional service in cases of emergency. Our contemporary, *L'Imparziale*, protests against this, and says that, while it is undoubtedly the moral duty of medical men to give their aid in urgent cases, no civil or penal law ought to impose this duty on them as an obligation, or to threaten with punishment those who refuse to perform it; that medical men, not bound by public appointments, neither can nor ought to be compelled to render assistance to every comer; and that to force them to do this would be making slaves of them."

Mortality of Philadelphia.—The following reports are condensed from the records at the Health Office:

	For the week ending June 10.	June 17.
Consumption	34	38
Other Diseases of Respiratory Organs	29	14
Diseases of Organs of Circulation	22	9
Diseases of Brain and Nervous System	39	50
Diseases of Abdominal Organs	54	49
Zymotic Diseases	22	12
Debility	27	30
Marasmus	6	11
Cancer	4	10
Syphilis	0	1
Scrofula	1	2
Tetanus	0	1
Old Age	10	5
Stillborn	15	19
Malformation	2	0
Casualties	12	10
Sunstroke	2	0
Suicide	0	3
Murder	1	0
Intemperance	1	5
Unclassifiable	11	11
Unknown	0	3
Totals	292	283
Adults	142	136
Minors'	150	147

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY, FROM JUNE 5, 1871, TO JUNE 18, 1871, INCLUSIVE.

Gibson, Jos. R., Assistant-Surgeon.—By S. O. 62, Headquarters District of New Mexico, June 1, 1871, relieved from duty at Fort Stanton, N.M., and directed to comply with requirements of S. O. 190, C.S., War Department.

Brooke, John, Assistant-Surgeon.—By S. O. 71, Headquarters Department of the Columbia, May 27, 1871, assigned to duty at Camp San Juan Island, Washington Territory.

Cowles, Edward, Assistant-Surgeon.—By S. O. 224, A.G.O., June 8, 1871, granted leave of absence for six months, to take effect when his services can be spared.

Kinsman, John H., Assistant-Surgeon.—By S. O. 25, Headquarters Military Division of the Atlantic, June 1, 1871, granted an extension of his leave of absence for 30 days.

Wilson, A. D., Assistant-Surgeon.—By S. O. 100, Headquarters Department of the Platte, June 8, 1871, directed to proceed to Fort Fred. Steele, Wyoming Territory, for temporary duty at that post.

Ewen, Clarence, Assistant-Surgeon.—By S. O. 114, C.S., Headquarters Department of Dakota, granted leave of absence for 30 days.